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ABSTRACT

The main objective of this thesis is to suggest materials for use in secondary social studies classrooms for improvement of instruction on population and world geography. The thesis provides background information on population, a listing of sources where additional information can be found, and major generalizations, discussion questions, and related activities which can be used in the classroom. Annotated bibliographies of available materials are organized within broad subject categories, including basic teacher references, organizational sources of additional population information, suggested themes for a study of population, and solutions to the population problem. Each category begins with a author commentary and follows with the bibliographic information. Entries are alphabetized by author and include title, publisher, and date. Extensive annotations are presented, giving the reader an idea of the breadth and scope of the individual materials. (Author/JR)

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SUGGESTED MATERIALS AND THEMES FOR A STUDY OF POPULATION IN SECONDARY SOCIAL STUDIES

by

DIANA DARNALL BEER, B.A.

THESIS

Presented to the Faculty of the Graduate School of
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PREFACE

The population concept which is stressed in this study can perhaps best be put in the form of a question: "Is more and more necessarily better and better?" Because of population growth around the world, more and more people are finding it difficult or impossible to enjoy the rural existence which once was the traditional way of life in so many societies; these people are flocking to cities, which can often not accommodate them adequately and cannot offer them employment.

The adopted textbook in World Geography, Texas, Grade 9, for the school year 1974 is The Rise of the City. This adoption marks a new direction for World Geography, and it is hoped that this study might give teachers background information and some specific teaching ideas for introducing a study of population into the geography curriculum. The study of population, in addition, can and does have a natural place in a wide range of social studies subjects (world history, economics, family life, sociology, etc.), because of the traditional social studies concern for citizenship and individual development. Social studies students should become informed about population matters on the intellectual level, but they should also develop a consciousness of their own values and motivations which will affect their future reproductive behavior.

ACKNOWLEDGMENTS

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April, 1973 D.D.B.

CONTENTS

Chapter Page

I. ANALYSIS OF THE STUDY 1
    A. Subject 5
    B. Objectives 5

II. BASIC TEACHER REFERENCE LIBRARY 6
    A. Specific Readings of General Works . . . 7
    B. Annotation of Non-technical Articles on Population 50
        1. 1965 50
        2. 1966 52
        3. 1967 55
        4. 1968 57
        5. 1969 61
        6. 1970 63
        7. 1971 70

III. SOURCES OF ADDITIONAL POPULATION INFORMATION 73
    List of Organizations Engaged in Population Research 73

IV. SUGGESTED THEMES FOR A STUDY OF POPULATION FOR SECONDARY SOCIAL STUDIES 75
    A. Section I: Background of the Population Problem 78
        1. Theme 1: Development of Essential Population Vocabulary 78
        2. Theme 2: Major Generalizations Related to Population 80
        3. Theme 3: The Problem of Overpopulation Is a World Problem 83
            a. Suggested Activities 83
            b. Specific Readings 85

Chapter Page

4. Theme 4: Our Present Situation of Overpopulation Did Not Just Happen: It Can Be Traced Historically 94
  a. Suggested Activities 95
  b. Specific Readings 97
5. Theme 5: There Are Certain Problems Which Accompany Rapid Population Growth 108
  a. Project Materials Review . . 111
  b. Specific Readings 111
6. Theme 6: Population and Pollution 119
  a. Project Materials Review . . 122
  b. Specific Readings 123
7. Elements of the Population Debate 132
  a. Suggested Activities 133
  b. Specific Readings 136

B. Section II: Solutions to the Population Problem 141
1. Theme 1: Pessimistic Forecasts of World Overpopulation Problems . . 141
  a. Suggested Activities 141
  b. Specific Readings 143
2. Theme 2: Optimistic Forecasts of World Population in the Future . . 152
  a. Suggested Activities 152
  b. Specific Readings 152
3. Theme 3: Work Being Done to Save Our Environment 159
  a. Suggested Activities 159
  b. Specific Readings 160
4. Theme 4: Religious Involvement in Population Matters 176
  a. Suggested Activities 177
  b. Specific Readings 179
5. Theme 5: Three Scenarios for the Future 186

V. CONCLUSION 188

CHAPTER I

ANALYSIS OF THE STUDY

The central problem to be considered in this thesis is the suggestion of materials and themes relating to population that will be of use in secondary social studies instruction, and, most particularly, in the teaching of world geography. With the declaration by the United Nations of 1974 as World Population Year, teachers are given a ready made opportunity to work with a worldwide 'problem' rather than a parochial or national one, in accordance with the emphasis of the newer social studies.

The population boom, although a reality in the American classroom, has not become an integral part of the school curriculum. Population expert Philip M. Hauser writes:

> The facts and implications of population changes are indeed conspicuous by their absence or by their superficial and cursory treatment in American education. This ignoring of demography in the school curriculum is particularly astonishing in view of the fact that schools themselves have been hard hit by rapid population changes. . . . School curricula contain almost no reference to population trends.[1]

Since Hauser made these comments in 1968, the situation has changed somewhat; population has become a subject of study -particularly within the confines of the social studies. But, its inclusion in the curriculum is haphazard; and, in most cases, it still does not receive the attention its importance might indicate.

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[1] "Focus on Education," Intercom, Vol. 10, No. 4, July, August, 1968, p. 25.

Ideally, the study of population should be carried out on an interdisciplinary as well as an international perspective, whether on the 'unit of study' plan or the 'separate course' plan. As most social studies teachers are far too busy to develop such a unit of study themselves, and as current curriculum offerings in population tend to be rather specific as to topic and limited in scope, it is hoped that these suggestions may give the social studies teacher some guidelines for investigating the field of population in its extremely broad and varied aspects.

The thesis provides the beginnings of a background of population information, a listing of sources where additional information can be found, and major generalizations, discussion questions, and related activities which can be used in the classroom. The objectives were to prepare instructional themes for actual classroom use and to present the rudiments of background material necessary for a teacher working in the field of population. It is the contention of the author that more background material and information is needed by teachers, so that they can work more intelligently and more creatively with prepared units.

There are various opinions as to the advantages and disadvantages brought about by the increasingly large numbers of people which today inhabit the earth. Some groups would encourage rapid growth of their particular religious, national, racial, or cultural group to make it larger and, supposedly, more powerful. Other groups are concerned that the earth cannot support unlimited numbers of people, so they urge either general population limitation or a more specific control, such as population control in underdeveloped or already overcrowded areas. But, though the fine details of the picture may be understood as pieces of information about which one can form an opinion, there are some facts involved in the matter of population: the past is fact; the growth has occurred; growth will continue to occur unless it is interfered with and controlled.

Man has solved many major problems in his past; he has not solved the population press--or, at any rate, the problems stemming therefrom. There is much attention given today by individuals, community, national and international groups to the social and environmental ills which are brought about, partially at least, by the combination of uncontrolled population growth and unrestrained expenditure of resources. Starvation is a daily fear of many people today, even though the frequent mass famines which until recently occurred in Asia have been largely eliminated through international intervention. Environmental deterioration is increasing in the form of noise, water, and air pollution; indeed the problems build up rapidly in proportion to the rapidly increasing population.

The best estimates inform us that there are approximately 3.6 billion people on earth at the present time; although there is no exact estimate of just what the earth's environmental carrying capacity is, there are marked shortages already of some natural resources and projected shortages of others. The advance of science will solve some of these shortages, but many scientists maintain that the allegation that improved technology will take care of everything is dangerously unrealistic.

The procedure followed in connection with the central problem of suggesting social studies instructional material on population has been to outline the course objectives, identify the major themes and topics to be used, and to outline a number of themes so that they include readings and source materials to accompany the discussion questions and related class activities. A review of existing social studies curricula on population has revealed a possible need for guidelines on integrating the immense amount of existing material, as well as of using this information on a piecemeal basis in the classroom.

A. Subject

The central subject of the thesis is: "There is an intimate and ultimate relationship between population growth and the environment." Activities and programs are intended to develop an appreciation and awareness of this theme through knowledge and understanding of the various ramifications of this statement. The conceptual framework is a combination of environmental as well as social in a broader sense; therefore, it is seen as a likely topic for a social studies classroom.

B. Objectives

The main objective of this thesis is to suggest materials for use in social studies classrooms for improvement of instruction on population. Specific objectives are:

To compile an annotated bibliography of readings on population

To compile a listing of sources for further information on specific aspects of population and a description of material available from these sources

To suggest themes and outline specific teaching activities on population which will serve to aid the teacher whose objectives in this case are assumed to be:

To educate secondary social studies students to awareness of the rapid growth of world population as a contemporary problem and,

To evaluate the measures taken to date to alleviate the problem.

CHAPTER II

A BASIC TEACHER REFERENCE LIBRARY

There is overwhelming interest today in man, in his every increasing numbers and in his dominance of the environment. This concern with population has led to a flood of materials of varying quality; this means that there is available a large amount of recent material. The works reviewed in this section are of a general nature, i.e. they are works which do not attempt to single out one aspect of population and deal with it in isolation from other aspects. Most often, these works are in the form of edited volumes containing numerous articles by different authors on the subject of population; hopefully, they are all works of some value to teachers and students. The books were all published between 1960 and 1972 and they are all general works which attempt to give the reader as full and complete a picture of the study of population, although specific articles are often directed to a rather particular aspect of population. Of the large volume of general population books published during the 1960-72 period, the following are representative of those including articles from the widest range of areas of interest in the field of population.

This chapter also includes a description of The Population Index (quarterly publication of the Office of Population Research, Princeton University and of the Population Association of America), which is an excellent classified and annotated bibliography of all current publications related to population.

Non-technical articles--such as those indicated in the Readers Guide--have been briefly annotated for the period 1965-71 and appear at the end of the section. The cut-off date of 1971 was chosen for two reasons: first, the volume of material to be included in the teacher reference library was already quite large and second, the increased number of articles in popular journals during the year 1972 equalled the number from 1969-71 inclusive; hence, the number of added pages would have made this chapter prohibitively long.

The American Assembly. The Population Dilemma. Englewood Cliffs, N.J.: Prentice Hall, Inc., 1963. 210pp.

The eight chapters of this reader, by eminent social scientists from the fields of sociology, demography, economics, and geography, deal with the topics of: World Population Growth, Population Control, Economic Development, Natural Resources, and Population Policy. The reader was designed to give a good background reading for consideration of implications of national and international policy to deal with rapid population growth. The book could serve the social studies teacher as a useful general outline of relevant topics connected with a study of population. The value of the book lies chiefly in its achievement of a concise, centralized "pool of knowledge" where experts on various aspects of population have collaborated to present to the general reader an understanding of the problem from several viewpoints.

Some of the more striking facts mentioned are as follows:

1. As reported by sociologist Philip Halsey: The world population of 3.5 billion in 1968 could double by the century's end. The significance of such an increase can be grasped when the prospect is restated as follows: "It took all of the time man has been on this planet to achieve the population of 3.5 billion reached in 1968; but a population equal to this will be added in the mere 32 years between 1968 and 2000." (pages 1-8)

2. As reported by demographer, Irene B. Tauber: "Population growth did not begin in the present decade, or even in the recent years when the seemingly miraculous chemicals, inoculations, and antibiotics became available for the elimination or control of many of the great historic causes of death. Fifty years ago, as today, death rates were declining while birth rates were unchanging" (page 37). . . . "The

past is fact. The growth has occurred. . . . The associations between increasing population growth and lagging economic growth have become apparent to demographers, economists, planners, legislators, and administrators. . . ." (page 40)

3. Reported by Joseph L. Fisher and Neil Potter: "Clearly, the population problem is not simply one of numbers of people, but also of natural resources and how they are used. . . ." (pages 107-08) . . . It is encouraging to find a Food and Agriculture (FAO) study concluding that there has been for the whole world an 18% increase in per capita food output since the 1930's. Af first glance, this would seem to indicate an improved future for the world's hungry people. When we examine the picture more closely, however, we find serious problems. Per capita food output in Latin America, Asia and Africa is no greater than it was thirty years ago--progress has occurred principally in North America, Western Europe, Japan, and the Soviet Union. The areas which have lagged contain two-thirds of the world's population, and have notoriously poor diets. The lag seems to be due partly to rapid rates of population growth, and partly to failure of these areas to participate sufficiently in the agricultural revolution. . . . (pages 116, 118-20)

Asmundson, Doris R. Doom of a Dream. Scranton, Pennsylvania: Chandler Community College, 1971, 313pp.

An edited volume directed to the general subject of the deteriorating environmental situation, this book contains six sections of which the last two, (Population, and Future Prospects), are of particular interest in a study of population. The selections included vary widely and range from scientific to theoretical. The author included predominantly negative works directed to the question, "What can be done to save what has not yet been destroyed irrevocably?" Miss Asmundson finds that basic, and most important to the solution of our problems, is the question of whether or not we will cut down on our exploding population.

There are several articles included which seem to be part of nearly all environmental readers--namely, works by Thomas Malthus, Paul Ehrlich, Lewis Mumford, and Rene Dubois--but there are, as well, several unusual choices which give the book somewhat more of an individual statement. For example, Sir Julian Huxley reports in his article entitled "Crowded World" that we are well on our way to ruining our material habitat . . . but we are beginning to ruin our own spiritual and mental habitat also. . . . "Not content with destroying or squandering our resources of material things, we are beginning to destroy the resources of true enjoyment--spiritual, aesthetic, intellectual, emotional."

Andre Maurois makes a comparison between our present life and what he calls "The Good Life" when he remarks: "In the past, familial education was supplemented by community education. The village was a school of neighborliness and friendship. Because a villager knew all his neighbors and also knew that he was destined to spend his life among them, he strove to prove himself a man of good graces, and good manners. . . . But since overpopulation and industrialization tend to create urban centers becoming ever more huge, what is to become of the ceremonies and good manners of the past?"

One particularly relevant article by botanist Hugh Iltis, entitled, "Criteria for an Optimum Human Environment," maintains that we must "discover the mechanisms of environmental influences of man. There is no other satisfactory approach to an optimum environment." He relates several approaches toward studying the human environment--namely, systems ecology, examination of evolutionary heritage, cultural adaptation, mental and physical health, extent and limit of human capabilities, evolutionary capabilities--all of which could be useful to secondary students as a guide. Upon the basis of the categories delineated in this article, students could be given specific ways in which to look at their environment rather than being just told to look around them and draw conclusions from what they see.

Behrman, S.J., Corsa, Leslie, and Freedman, Ronald. *Fertility and Family Planning*. Ann Arbor: University of Michigan Press, 1969. 498pp.

This study is a collection of papers originally prepared for the 1967 University of Michigan Conference on "Fertility and Family Planning." The contributions--chosen predominantly from the biology and public health fields--are consistently of high quality and generally informative, though often somewhat too specific or too sophisticated for general secondary school use.

Of particular value, however, might be the section entitled "Public Programs for Family Planning"; the six articles included in this section compare and contrast the National Family Planning Programs in the more developed countries with those in the developing world. Bernard Berelson, of the Population Council, sets the tone of the section by asking the following questions: "What has been the experience? What have we learned from it? What does it come to?" The various authors deal not only with the official governmental programs and policies in various areas, but also with the more or less official programs that bring family planning information, services, and supplies to mass populations in the developing world in order to promote effective family planning practices for the welfare of the individual family and/or the national community.

There is much diversity among nations, as would be expected. Countries studied include the U.S., Indonesia, Mexico, The Philippines, Turkey, India, nine countries of Latin America, Pakistan, U.A.R., and Tunisia.

Contributor Leona Baumgarten of the Harvard Medical School has found no striking dissimilarity between attitudes and activities related to family planning in the U.S. and those in the developing world. In the U.S., she reports, people have been ahead of their leaders. In the years when the topic of birth control was seldom mentioned publicly or even privately in this country, a substantial proportion of families of all faiths limited the size of their families. In recent years, public opinion polls have shown increasingly higher percentages of people (Catholic and non-Catholics) favoring governmental action. By 1956, for example, when many governmental leaders were loathe to enter any discussion of the problem, 65 percent of the U.S. population and 59 percent of Catholics of child bearing age favored governmental action. Dr. Baumgarten finds this attitude in marked contrast to the case of, for example, India, where the political leaders realize the urgent need for effective programs of family planning but find their uneducated populations generally non-receptive to an idea which goes against their traditions.

Borrie, Wilfrid David. The Growth and Control of World Population. London: Werdenfeld & Nicolson, 1970. 298pp.

A general coverage of major world demographic patterns as seen against their historical perspectives, this book includes much relevant information of a world summary type and includes as well an extensive footnote reference section which could be of use to a teacher of social studies for personal reference as well as of direct use to students for sources of additional study.

The section on the ancient and medieval world is most informative on a period which many authors on the subject of population dismiss in one or two sentences, or in a figure on a graph. Mr. Borrie reports not only how many people there were at a given time but also the effects of historical events--such as the disintegration of the Roman Empire, or one of the Great Plagues upon the people of the time. He also delves somewhat into the nature of population records from earlier times: For example, speaking of the Ming system of population records, he reports:

> [They] were based on a system of permanent registers. The primary units of the organization were the Chia, composed in principle of 11 households; above these were the li comprising ten chia plus widows, orphans and others who were exempt from taxation and not assigned to any chia. Each year forms were printed from word blocks, and distributed to householders who were then required to complete them by entering details of numbers of persons, occupations and property. Now the main purpose of the Ming system was fiscal, and people may have tended to evade enumeration, particularly those who could come under the protection of powerful rural interests or who could bribe the collectors. (page 50)

From pieces of information such as the above, students might learn that, although many things have changed in the world in modern times, many problems and concerns are just about as old as history itself. The scholarship of the book is very careful throughout; the work is informative in the extreme and often tells the background behind a fact or a statistic.

From the first chapter, "The Great Migrations" to later specific chapters on contemporary patterns in the western world and on population studies in the developing world, the tendency of the author is to first present relevant information and then to proceed to explain it in clear and copious detail. The book might be of use in the classroom if the teacher chose several examples of this pattern of presentation/explanation and then asked the students to provide several of their own explanations--based on class work cr on outside reading. The work could serve as an excellent model for working with and developing in a scholarly way, the information which has been collected.

Ehrlich, Paul R. The Population Bomb. New York: Ballantine Books, 1968. 223pp.

Perhaps the most controversial of all the recent radical population literature, this book brought the terms 'population bomb' and 'population explosion' into common usage. Written by Stanford University biologist Paul Ehrlich, the study takes a very pragmatic and straight forward approach to what he terms 'The Problem.' He asks 'What is being done?' 'What needs to be done?' 'What can you do?' and 'What if I'm wrong?'

The reader finds himself urgently hoping that Dr. Ehrlich and those who share his pessimistic views on the population question are, in his words, "just plain wrong, that [we] are alarmists, that technology or a miraculous change in human behavior or a totally unanticipated miracle in some other form will save the day." Unfortunately, however, the evidence Dr. Ehrlich presents to the contrary is extremely convincing. He does stress that while medical science and agricultural technology, in particular, have made strides which allow people to live longer and better, there are several elements which are actually increasing the possibility of threat to man. Among these elements, he stresses war and non-immunizable viruses particularly.

The gap between the measures which are presently being taken to curb the population explosion and those which must be taken if we are to make headway is seen as being impressively large. The importance of a more realistic program of international economic aid is srressed, along with increased scientific research into just what resources the earth has and how these resources could be carefully developed and husbanded, rather than squandered at ever increasing rates. The implications for the United States are great. Ehrlich says that, in his opinion, the key to the whole business is held by the United States. We are the most influential superpower; we are the richest nation in the world. At the same time we are also just one country on an ever shrinking planet. It is obvious that we cannot exist unaffected by the fate of our fellows on the other end of the good ship earth. . . .

This book, because of its great popular acclaim, as well as its controversial nature, is a 'must' for inclusion in at least the teacher's reading preparation for teaching a unit on population. If the whole book cannot be read by the entire class--though it is now available in paperback at 95¢--it can at least be used as a resource book. It is imminently quotable and ranks in the forefront of the population 'scare' books. Its popular nature, however, does not detract from the scholarly quality of Dr. Ehrlich's research.

Farmer, Richard N., Long, John D., and Stolnitz, George J. World Population--The View Ahead. Indiana University, Bloomington: The Foundation for the School of Business, 1968. 307pp.

A product of the Conference on World Population Problems held at Indiana University in 1967, this reader combines the findings of contributors from the many disciplines which grapple with the population problem. A useful overview, presented by Indiana University economist George Stolnitz at the beginning of the work presents a sort of introduction to the major themes of the papers which follow, namely:

population-development interrelations and demographic issues such as mortality, fertility, and quality of life vs. quantity of life.

A summary of current population estimates by Miles Macura, Director, Population Division, United Nations, stresses the variation in projections of world population by the year 2000, and the marked uncertainty which surrounds these projections, even when they are based upon the most painstaking research. He warns that any selected projection has its own limitations and deficiencies. These limitations must be known to the user of the data, who should proceed with maximum caution and reservation which are necessary to any sort of analysis, including analysis of the future. Mr. Macura's article is accompanied by numerous tables, which illustrate particular aspects of the U.N. population estimates.

The book is divided into five sections: (1) The Outlook (2) Economic and Technological Aspects (3) Sociological Aspects and Quality of Life (4) Death and Birth Controls and (5) Ethical Issues of Control. Of particular theoretical interest in chapter 5 is the article by Robert C. Cook, President, Population Reference Bureau; the article is entitled 'Playing God.' Mr. Cook underlines the complex results which are following the medical advances which he says now allow us to 'win at long last a round with death.' Although the triumphs over various diseases seemed an unmixed blessing at the time of their discovery, Mr. Cook finds that these momentous discoveries have opened up a frightening new era in which it became necessary to review some fundamental morals, taken for granted, and to engage in a most difficult game of truth and consequences. He claims that man, having to a great extent elbowed Providence out of the picture of timing life's end, has opened up a veritable 'Pandora's box of most difficult formulations and decisions; he must forsooth apply all his wit, will and wisdom to the basic facts of human arithmetic. . . .' The challenges of our present situation are dramatically presented in this article and Mr. Cook finds that although 'the ethical considerations involved are complex enough to tax the wisdom and the conscience of man,' we must realize that mankind has been put in the position of playing God and that he must face the frightening reality--or else.'

Frankel, Lillian B. This Crowded World. Washington, D.C.:
Population Reference Bureau, Inc., 1970. 60pp.

This book was written specifically to introduce students to some of the intricacies of a world which is becoming increasingly populated. It is part of a series, of which other titles are 'People' (grades 7-9) and 'The Population Dilemma' (grades 10-12). Although the grade level of this book is not specified, I would find it useful for average grades 7-9 and slower grades 10-12, particularly geography in conjunction with "The Rise of the City."

It is rather a general description--profusely illustrated--of the population explosion. It covers rich nations and poor nations, industrialized and developing ones; it comes to the conclusion that the press of population around the world has greatly contributed to a "worsening state of our environment," regardless of the economic and technological levels of the country involved.

The chapter titles are: (1) This Crowded World (2) The People Count (3) How Did Earth's Population Get So Large (4) Rich Countries and Poor Countries (5) Problems in the United States and (6) The World's Problem.

The book begins with a request that the student imagine what the earth would be like if present population trends continue. The student is informed of present statistics and asked to project the implications of these facts into an ever more crowded future. There is a compelling--if somewhat superficial--discussion of poverty. The treatment of medical advances and increased longevity is interesting but, again, somewhat superficial.

Several of the sections end with what one assumes to be considered by the author as 'leading questions.' Some of these questions could be relevant to class discussion. However, as these questions are nowhere answered in the book, I find their utility questionable. For example, the author asks "How do we know there is a population problem?" While this certainly is a thought provoking question, it could be made more useful as a teaching device if it were developed somewhat further.

Freedman, Ronald (ed.). Population: The Vital Revolution.
Garden City, New York: Doubleday & Co., Inc., 1964. 274pp.

This book includes works by 19 'experts' who analyze world population trends in non-technical language; it is dramatic in nature, as its title would suggest. It has as its purpose to acquaint a general--i.e., interested but not technically trained--world audience with current scientific knowledge and opinion about population trends. It contains no tables, graphs, or illustrations, but the text is clear and informative. Much of the information could be used in its present form for secondary school consumption.

Approximately half of the book deals with American phenomena such as the following: "Longevity and Mortality in the American Population," "The Fertility of the American Population," "The Growth of the American Population," and "Taking an Inventory of 180 Million People: The U.S. Census." The other half of the book surveys population information from around the world--both by specific country and by means of more general population trends such as family planning programs and world urbanization.

Philip M. Hauser's article entitled "The Population of the World: Recent Trends and Prospects" gives an excellent and very clear and concise review of man's presence on the face of the earth over the last two million years. Maintaining that knowledge about population in the past, the present, and the future enables a person to see himself as an element in world population," Mr. Hauser provides a competent and highly interesting discussion, in a sort of question and answer form, of the factors which have caused the acceleration in rate of growth of the total population. This particular article might well serve as an introduction to a secondary unit on a general study of world population.

Hardin, Garrett. Population, Evolution, and Birth Control. San Francisco: W. H. Freeman and Company, 1964. 380pp.

This reader, subtitled "A collage of controversial ideas," combines seven articles on the general topic of population with 21 articles on evolution and 43 articles on the subject of birth control.

Section one--on population in general--includes articles widely selected from the fields of art, religion, science, social science and medicine. Many of the articles are short and to the point and could be reproduced for classroom use, if the books were not available to each student. Benjamin Franklin, Malthus, Martin Luther, Garrett Hardin and Paul Ehrlich are represented as authors, and the range of opinion and subject matter is correspondingly broad! The section on evolution tends to be, in my opinion, somewhat esoteric for secondary school use, though the several inclusions by Charles Darwin (including his "Origin of the Species") might serve as an interesting general introduction to a somewhat more scientific subsequent population study.

Of particular interest is the section on birth control, which includes both polemical discussions pro and con and specific discussions of birth control in certain countries such as India, Puerto Rico, and Japan. Several of the articles are quite controversial: For example, Raymond B. Cowles recommends in "The Non-Baby Bonus" that

> A bonus of $600 (equal to the exemption) be given for not having children . . . this act would save the cost of education for the child not born. . . . Best of all, it would act on a eugenic basis. The reward would be most effective in the poorest and least educated and least forward-thinking part of our population. (p. 339)

And, in his article on "Woman's Place in Nature," author Reverend William John Knox Little comments:

> There is no crime which a man can commit which justifies his wife in leaving him or applying for that monstrous thing, divorce. . . . If he be a bad or wicked man, she may gently remonstrate with him, but refuse him never. Let divorce be anathema. . . . Think of the blessedness of having children. . . . (p. 198)

Such a statement would certainly spark class interest and point out the change in popular attitudes during the past century. This reviewer does not find that the value of this volume is diminished overall by the extremely controversial nature of the articles included; it could perhaps be used to evoke initial interest in population as a general topic, and would encourage students to be favorably disposed toward a further study of the field.

Heer, David M. (ed.) Readings on Population. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1968. 234pp.

This collection of readings is part of the "Readings in Modern Sociology Series." It includes articles which the editor claimed seriously challenged well established beliefs and involved a novel approach of investigation. Such criteria have resulted in a varied, interesting and quite readable work; only in the last section on population policy are the works of a particularly technical nature; they are perhaps too sophisticated in technique for general secondary level teaching.

Part I and part III (The History of Population Growth; Mortality) contain solid research articles which might be good as study pieces. William Langer's article, "Population Growth and Increase in the Means of Subsistence" explores the theory which arose after World War II--namely that the spectacular rise in the European population in the late 18th century may have been due not so much to a reduction in the death rate as to a significant rise in the birth rate. It follows previous interpretations of the European population sprout, and is a very good treatment of population interpretation from a historical standpoint.

Perhaps the most original approach is that taken by John B. Calhoun in his article entitled "Social Effects of High Population Density"; in this article, he treats the relationship between density and social pathology. The author reports on rat research dealing with behavior and social organization in relation to population density and draws conclusions for the human populace. His findings, though based on scientific research, are reported in a clear, simple and non-technical way; they are, at the same time, well documented and interestingly illustrated. Secondary students might learn from reading this article about experimental procedures and interpretations thereof.

Hertzberg, Hazel W. Teaching Population Dynamics. New York: International Studies Program, Teachers College, Columbia, 1965. 91pp.

A generally useful tool for the secondary social studies teacher interested in population, this work is in the form of an instructional unit designed to teach population dynamics. It is divided into the following chapters: 1. Introduction; 2. An Historical Survey; 3. Demographic Definitions and Methods; 4. Comparing Populations of Different Countries; 5. How Population Figures Are Collected; 6. Local Surveys; 7. Making a Population Analysis of an Indian Village: Rampor; 8. India in 1961. It includes also a section entitled "Directions for Further Study" which gives to the students additional ideas for carrying out a local population study. Several of her pointers to students are the following: students may match population trends with studies of topics like changing rates and types of agricultural production; patterns of land ownership and use; problems of unemployment and under employment; changes in non-farm occupations; the development of transportation.

The study itself is primarily intended for teacher training use, rather than classroom consumption. The basic ideas and procedures, demographic vocabulary and analysis, are general and could be applied internationally; but the specific references are to India, as it is the contention of the author that instructional materials on population in the field of social studies have to be specifically designed for use by particular students.

The historical survey, in particular, is clear and concise and shows development chronologically and by area, with differing rates of demographic growth given some good explanation.

Some simple statistical methods are used; those that are used are introduced, defined, explained, and then utilized in such a way as to encourage students to gain skill through exercise of repeated and increasingly more complex use. There is a series of questions after each table; this method of checking whether the information presented was accurately understood is a good one for classroom graph and table and chart use in general. Also, students are informed how to construct a chart which would portray, for example, the information he gathered in a set of interviews. Here again, the author clearly explains each step; the interview technique is outlined, the chart preparation and execution is explained; and the interpretation of the findings is explained.

An excellent study for social studies teachers--in fact, an essential beginning book on the construction of simple statistical material for use in a unit or a course on population.

K.Y.NG, Larry (Ed.). The Population Crisis. Bloomington, Indiana: Indiana University Press, 1965. 362pp.

This selection of readings on the subject of population offers investigation into the various causes and consequences of increased overpopulation, and, more unusually, definite and often realistic measures which might be taken to avert the consequences. The twenty-eight contributors are leaders in science, the humanities, the social sciences. The work was compiled in response to the 1962 declaration of the World Academy of Art and Science that the global population problem was the most critical subject that could be dealt with.

The author takes an optimistic view of the possibilities of solution to the problem. He prefaces his work by stating that he finds few areas which challenge our imagination and audacity of thought more than our need to confront the population dilemma. He claims confidence that an informed generation will arise to meet the challenge.

In a rather broad and sweeping article, science writer Anabelle Desmond explores the topic 'How Many People Have Ever Lived on Earth?' Her information, though not original or particularly revolutionary in nature or content, is put together in very clear order. She draws together much factual information concerning numbers and distribution of people at various historical periods with which the secondary student is probably not familiar, and with which he should become familiar as a preface to any world population study. In a discussion of ancient city populations, the author compares the flowering of American urban civilization to that of ancient Mediterranean and Asian cultures; she notes that they have similarities in the manner in which they flower, grow to a golden age, and then decline. This is an interesting attempt to include a study of modern trends in an overall survey of city populations throughout history.

There is a section entitled 'Regional Statements' in which the particular problems of Asia, Latin America, Africa, and America are studied in some depth. Perhaps most useful is the concluding section entitled 'Action Programs,' which includes seven articles directed to specific attempts at control of or solution to the problem. An interesting 'Final Report on the Population Dilemma' by the American Assembly concludes that rapid population increase and its accompaniments are obstructing economic development and thereby contributing to frustration, social unrest and political instability in many areas of the globe. It reports nine specific recommendations to alleviate the problem. Among these solutions are the following: intensified investigation of our population trends and problems; assumption of responsibility by the federal, state and local governments for making available information concerning family planning; appointment by the President of the United States of a Commission to inform, after investigation, the American people of the nature of the population problems at home and abroad with specific reference to international as well as national implications.

Secondary social studies students could perhaps criticize these recommendations in terms of their possible effects, and then could attempt to make additional recommendations.

National Bureau of Economic Research. Demographic and Economic Change in Developed Countries. Princeton: Princeton University Press, 1960. 525pp.

A collection of papers, with comments on the papers, presented at a Princeton University Conference on Population Research, this book is directed towards an investigation of mutual influences in industrially advanced countries between changes in national population and changes in national economics. Underdeveloped and developing nations are included only infrequently and, generally, only for purposes of contrast. Particularly directed towards the economic influences on fertility and mortality and upon the influence of demographic factors on important economic variables, the Conference was attended predominantly by economists, with a large minority of demographers and a small minority of other social scientists interested in population research in attendance as invited guests and observers.

The definition of topics which are understood as being included under the general heading 'economic' is extremely broad; for example, both the acquiring by large cities of better water supplies in the nineteenth century and medical/scientific advances such as antibiotics and insecticides are included. These economic advances are seen as component parts of general industrial progress and, as such, are considered from the point of view of the economic changes which brought them about and of the economic changes which they in turn incurred.

Particular categories of papers presented include: Economic Influences on Human Mortality; Mortality; Fertility and Population Change; Population Change and Per Capita Output; Population and Demand; Population and Productivity; also, there is a most interesting and informative summary section by Princeton University economist Ansley J. Coale on the Interrelations existing between and among the above categories.

As could be expected from a volume produced by University economists, the work contains a great amount of technical information, much of which might be too advanced for secondary students. The tables could be of extreme value to students doing research papers on a specific subject, however. An ample index could inform them immediately if there were any information on their population topic--most often, unfortunately, general readers on population do not contain any index at all and the reader of the volume is forced to rely upon the table of contents for information as to which subjects are covered in which articles. In this volume, on the contrary, the index gives clear indication of which subjects are dealt with by which authors and provides a ready means for the student to perform a cross check. For example, the topic of income and consumption is dealt with by several authors in enlightening ways: Ansley Coale finds in his article 'Population Change and Demand; Prices and the Level of Employment' that there is relatively slight effect of income on space per person. On the other hand, Margaret G. Reid argues the exact opposite by claiming that, with the exception of New York and several other major cities which are atypical, increased income leads generally to increased consumption and that space per person is consumed in accordance with this rule.

The more able secondary student can find much in this volume to stimulate his interest; the teacher can find ample technical information. But, the slower, even the average student, would be probably overwhelmed by the study as a whole, although he might be able to make use of some of the simpler tables and of the conclusions reached by various authors. The comments on the papers themselves, by participants at the Conference, are generally much easier to follow than the texts of the original papers; these comments tend to summarize the arguments as originally presented and then proceed to comment upon them.

Osborn, Fairfield (ed.). Our Crowded Planet. Garden City, New York: Doubleday Company, Inc., 1962. 234pp.

Stressing the general point of view that the earth already contains too many people, Mr. Osborn has selected 21 articles which approach this problem from different standpoints. These articles have been divided into the following five sections:

1. Population Pressures on Man's Natural Environment
2. Population Pressures on Economic and Political Trends
3. Population Pressures in Specific Areas
4. The Population Problem and Religion
5. Population Pressures on Morals and Ethics

The article entitled 'The Population Explosion and the Natural Environment' by Frank Fraser Darling might be useful as a take-off point for a study of the National Parks system, both in the U.S. and in England. The article stresses that people--both knowingly and unwittingly--place tremendous pressures on wild country; and that the pressure of many feet of would-be admirers around the base of great old trees is as fatal to the trees in the long run as cutting them down for lumber. A very thoughtful article and one which might turn the students' attention to recreation areas in future times of even greater population pressure.

Also of particular interest to anyone interested in an already overcrowded planet, is the religious question in relation to population control. Reverend Robert F. Gammon expresses a Roman Catholic attitude which, he claims, will surprise many observers. He says:

> The church is not for overpopulation or against control. The fact is that there is no peculiarly Roman Catholic viewpoint with regard to this recognized crisis. On many details concerning the problems that are arising from it and the various proposed solutions offered, there is as much difference of opinion among Catholics as among the members of any other group. . . .[1]

The Rt. Reverend James A. Pike presents a Protestant's view. He says that it should be emphasized that, so far as he is able to ascertain, no Protestant thinker on the subject feels bound by any one solution to the population problem. He concludes:

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[1] Osborn, Fairfield, (ed.), Our Crowded Planet (Garden City, New York: Doubleday Company, Inc., 1962), p. 187.

> It may well be that some solution other than any we have thought of will present itself before the problem becomes finally critical, but the time is short; indeed, if our demographers can be trusted, it is running out. There is little more time for argument, and unless firm action is taken, soon, it may well be too late to act at all.[1]

In general, the book is widely selective of works from scholars in various fields--there is something to appeal to almost every specific interest within the broad field of population research. But, the tenor of the work is definitely negative, except in the section on specific regions, where Japan, India, and Latin America are represented as making rather impressive strides in improving their agricultural methods (India), and their industry (Japan). The situation in Latin America, as explored by Enrique Beltram, Professor of Zoology at the University of Mexico is less hopeful. He asks:

> Would it not be more rational and, above all, more human, to try to restrain such an explosive increase in population, and, at the same time to try to promote the production of foodstuffs and other materials? Thus, instead of wildly gambling with future possibilities, we would daily raise human living standards. Those future possibilities of productive development are sometimes very optimistic, but careful consideration frequently shows that there are no solid grounds for such an attitude.[2]

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[1] _Ibid_., p. 188.

[2] _Ibid_., pp. 178-79.

Mr. Osborn's personal introduction, concentrating on the idea that the population explosion affects everyone everywhere is also most convincing and might be read aloud to the class as a general introduction to the unit, or as a thoughtful piece which might provoke class discussion.

Petersen, William. Population. London: Collier-Macmillan Ltd., 1969. 697pp.

This work, written by an Ohio State demographer, is in textbook style; it attempts to cover as many aspects of the study of population as possible. It is profusely and excellently illustrated and contains, as well, one of the clearest and most informative sections on 'Population as a Field of Study' which this reviewer has come across. Mr. Petersen includes chapters on Formal Demography versus Population Analysis, Biology versus Culture, The Theory of the Demographic Transition, and also an excellent Summary of Population Research along with suggestions for further reading.

The author intends that all who study this book, even if they do no further work in the field of population will be trained, hopefully, as intelligent and discriminating consumers of population figures. He has structured the extended discussion of demographic concepts, data, and techniques to facilitate the correct interpretation of population trends; he claims that this discussion is useful both in itself and as preparation for more advanced work.

Dr. Peterson uses specific case-study data of particular countries throughout the work, but generally does in-depth reporting of trends, concepts, and theories, rather than extended area studies of the industrialized world versus the developing world type model. He constantly compares the actual population figures with the optimum ones and explores the many facets of the issue. He is constantly concerned with the 'general determinants,' (which he defines as including fertility, mortality, and migration), and with projections and forecasts which can be made therefrom. He does, however, admit:

> For a country with good population data and stable institutions, as we have . . . in the United States . . . for example, it is barely possible to construct projections that are accurate enough to be useful. One cannot pretend to the same level of precision for the whole world, and the purpose of a projection can only be to suggest the approximate dimensions of growth. However, as the world's population is both very large and growing very fast, great accuracy is not required to show that enormous numbers of people will be added over the next generations. . . .[1]

This textbook study is excellent throughout and comprehensive in nature.

Polgar, Steven. Culture and Population. Chapel Hill, North Carolina: University of North Carolina, 1971. 195pp.

Subtitled 'A Collection of Current Studies,' this book has drawn together 15 articles on population dynamics--the majority having been contributed by anthropologists. Some of the authors, such as Margaret Mead, Joan Mencher and John Marshall, report on a specific culture or area, whereas other authors approach the subject from a topical view; several examples of the latter type of study are Human Ecology and Demographic Change, Family Structure and Child Spacing, and Cultural Aspects of Family Planning Programs (all section headings, under which are included several articles).

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[1] William Petersen, Population (London: Collier-Macmillan Ltd., 1969), p. 327.

A collection of works in a field which has become known as population anthropology, this work was prompted by the concern at the last Annual Meeting of the Society for Applied Anthropology that the problem of population was a perfect example of a relevant problem to which more concern should be devoted.

Margatet Mead's article, entitled 'More and Better Parents for Each Child," explores the inequality in the present situation of population control advocation, which seems to state to the rest of the world that we of the west can afford to have large families because we can feed, clothe, and house them properly, whereas those of the poorer nations cannot. She finds this tantamount to saying that "there are too many of you, but there couldn't be too many of us." She concludes that child care facilities must be either set up or improved upon, as the case may be, to enable women to make their full contributions to society as individuals, not just to the production and care of children.

Steven Polgar reviews theories of population change in his article entitled 'Culture History and Population Dynamics.' He finds that voluntary regulation of family size may well have been one of the earliest features of human culture. He reviews significant literature on the subject. Thomas K. Burch and Murray Gendell provide a very detailed and rather technical survey of work which has been done on methodological issues related to extended family structure and fertility. This article could be useful in demonstrating to students how social scientists construct and make use of models and theories in an inter-related manner.

For some reason unknown to this reviewer, anthropologists are not generally well represented in population readers; this is not the case with geographers, economists, political scientists, and particularly sociologists, who generally share the field with demographers. This book does attempt to fill that gap and presents much relevant and interesting research by leaders in the field of anthropology in general, and population anthropology in particular.

Pressat, Roland. Population. London: C. A. Watts & Co., Ltd., 1970. 148pp.

Perhaps of pertinent use to the secondary school student, this book was intended by its author to bring together many of the innumerable theories on population; the author has attempted particularly to pick out those aspects most likely to stimulate the interest of the reader who is comparatively new to the subject. As an introduction to the subject of population, it is a first-rate book, although it is somewhat over-basic and repetitive for more advanced use.

Mr. Pressat does make use of simple demographic analysis, but always in a straight forward, low-level technical way. For example, he reports in his chapter on 'Inequality in the Face of Death' that the poor of the earth are presently experiencing much shorter life expectations than those in the richer, more developed countries. To support this hypothesis, he has compiled a table of average life expectancies in 12 areas, from the Early Iron Age to 1965. In addition, he has included the name of the author who has done the most significant work on the particular period during each age in question. This type of table is informative, and perhaps more unusual, comprehensible to the average secondary student, though its utility might be questioned by a more experienced scholar. Students could use it as a model for creation of tables of their own.

Also of interest to the secondary student should be the chapter on 'The Modern Family,' in which the family unit is viewed internationally through the eyes of a demographer, rather than given the pseudo-sociological treatment prevalent in so many textbooks.

Pressat's treatment of Malthus explains not only his population theories but attempts, as well, to show why these theories have made him famous. Again, this is a very clear, interesting, and non-complicated approach; it might be used as an introduction to a study of Malthus and Malthusian theory.

Roos, Leslie L., Jr. The Politics of Ecosuicide. New York: Holt, Rinehart and Winston, Inc., 1971. 404pp.

A reader concerned with the environmental problems encountered by industrialized nations, this book stresses that, while the modern nations' problems are not immediately as severe in terms of population and limited material resources as are those of the developing nations, the problems are, nonetheless, important. The book emphasizes the relationship between the environmental issue and other issues which are closely related, such as population pressures, living conditions, and pollution.

One particularly interesting approach is that taken by Anthony d'Amato, Social Scientist of Northwestern University, who states:

> With population growth and the push of the developing nations to industrialize, world pollution increases at an accelerating rate--although the population "bomb" continues on [its] suicidal course; the need for lebensraum could have been, and in some cases--for example, Malthus--were projected long ago. The worldwide attention to the overpopulation menace, therefore,

> must be due to an exogenous variable, a factor that did change in the 1960's. This variable is pollution.[1]

A good class discussion question would be the following, which is mentioned as one of Professor Amato's concluding questions: If the current high level of global pollution is caused by 3.5 billions of persons now alive, can manking survive an increase of at least 30% in pollution as world population increases 30% in the next decade? Can we survive an increase of over 100 percent in pollution as the population doubles by the year 2000?

Also of considerable overall value is the chapter by Rich Liroff, also of Northwestern University, which outlines a suggested college course on the environment. Although the course was intentionally prepared for students at the college level, it has some relevant implications for the secondary school teacher. For example, its stated objective is as relevant to secondary study as to university study--'to educate students to the nature of contemporary environmental problems.' Mr. Liroff has outlined a course of study which proceeds from a survey of the quality and magnitude of contemporary ecological and population problems, proceeds to examine the attitudes of individuals and institutions involved and, finally, raises relevant questions which could be used in evaluating the situation to date and in planning for and making relevant decisions in the future.

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[1] Leslie L. Roos, Jr. The Politics of Ecosuicide (New York: Holt, Rinehart and Winston, Inc., 1971),

Shinn, Melvin (ed.). Population Control: The Imminent World Crisis. Durham, North Carolina: Oceana Publications, Inc., 1961.

Convinced that population growth poses one of the most critical problems of our time, the author of this volume has collected 15 articles which relate, in a general way, and without a common or unifying thesis, to this concern. The articles deal with the numeral aspects of the population increase, the international migration as a stop-gap to overpopulation pressures in specific areas, fertility control, religious attitudes, communist attitudes, various governmental programs and recognition of the challenge facing the world in connection with population control.

Mr. Shinn's stated belief is that, although the picture may appear bleak, it has one redeeming grace; this grace lies in the fact that it is not inevitable--it can be averted. He has, consequently, selected articles which both define and attempt to seek solutions for overpopulation in various areas of the world. The result is a rather general and comprehensive survey of the subject of overpopulation in all its various facets.

An article by British geographer, Dudley Stamp, entitled "World Resources and Technology," defines the fundamental problem facing the world today as the rapidly increasing pressure of population on physical resources, and particularly, resources of land. He discusses the extreme difficulties encountered in figuring out what to do with the hundreds of millions displaced by increasingly efficient agriculture. Urban economics expert Henry B. Van Loon, on the other hand, sees the lack of space as the most important result of an ever increasing population. Van Loon asks "How much is too many people?" His plan for the future demands that each nation attempt to answer this question in line with their varying attitudes toward freedom of movement and expression.

Specific articles on Japan, Puerto Rico, India, and the U.S. are included; some relevant general observations on the political economy of population growth are made by Emory University Law Professor, Arthur S. Miller. He states that the central thesis of his argument is the following:

> the relatively simple, albeit heretofore strangely neglected proposition that population growth will create the need for more organization, which, in turn, will result in the further enhancement of groups (including societal), rather than individual values. If continued, the tendency could result in such a dimunition of personal freedoms as to approximate the conditions of totalitarianism.[1]

Mr. Miller prophecies that more control of every aspect of American life is inevitable if the population continues to grow at its present rate; he questions only whether it will be developed with at least attempted rationality and with due regard to the preservation of democratic values.

This is a good and well rounded reader.

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[1] Melvin Shinn, ed., Population Control: The Imminent World Crisis (Durham, North Carolina: Oceana Publications, Inc., 1961), p. 238.

Wheeler, David L. The Human Habitat. New York: Van Nostrand Reinhold Company, 1971. 275pp.

This book of contemporary readings covers subjects of interest to students of geography; although the sections on weather and conservation may be related to a study of population, it is the six chapters included in the Section on Population that are of particular interest here. The chapter excerpted from "Too Many Americans," by Lincoln H. Day and Alice T. Day points out that rapid population growth has implications for the American way of life, as well as the life of developing nations who look to America for guidelines on society development. These authors have found the following:

> Often in combination with the paraphernalia of a high material level of living, population growth in the United States has already meant increasing control from external sources, less flexibility permitted individual behavior, greater centralization in government, crowded schools and recreation areas, vanishing countryside, air and water pollution, endless traffic jams, and a steady loss in time, solitude, and peace of mind.[1]

As Robert Reinow found in his chapter entitled "Space and Sprawl" the American nation is faced with an open space crisis as a result of population growth and urban expansion. To reinforce this supposition, Mr. Reinow makes use of numerous so-called 'news items' from the 1950's and 60's to show that environmental problems are becoming progressively worse. For example:

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[1] David L. Wheeler, The Human Habitat (New York: Van Nostrand Reinhold Company, 1971), p. 153.

> News Item: By 1975 . . . unless more land is found to put in use for crops than now appears likely, that will mean a per capita acreage of only 2.25 assuming the minimum population figure. When that level is reached, Americans must use their land much more intensively than at present or begin to think in terms of more cereals and less meat in their national diet.[1]-- T. S. Burne, U.S. Soil Conservation Service, North Carolina.

> News Item: It takes six times as much land to feed people a steak diet as it does to feed them cereal.[2]
> --Ezra Benson, 1957.

Reinow concludes from such information that Americans will soon face the end of what he calls 'The Great Steak Era' and will be forced to drop toward an Asiatic diet.

Biologist Paul Ehrlich is no less pessimistic. He states:

> The first fact is that there are too many people, and more arriving every day. The second is that food supplies are inadequate. Even most optimistic food 'experts' think that agricultural production will at best be enough to maintain today's standard of misery over the next decade. Many informed people believe that a monster food/population gap will appear in the next decade, and that massive starvation will occur. . . . Even more critical . . . is the fact that we are rapidly destroying our planet as a habitat for Homo sapiens.[3]

Teachers might make use of not only the negative tone of the majority of articles in this book but also of the fact that eminent scientists and social scientists have so often themselves come to essentially negative conclusions after observing population facts and trends.

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[1] Ibid., p. 181.

[2] Ibid.

[3] Ibid., p. 198.

Young, Louise P. Population in Perspective. New York: Oxford University Press, 1968.

This edited volume contains articles which support the editor's general thesis that current population growth is different not only in quantity but also in nature from past population growth. This difference is seen to be in the realm of what the author speaks of as "death control." This phenomenon, a result of modern medicine and sanitation, has upset nature's automatic balance by allowing more people to live without providing new sources of subsistence. Although modern technology has enjoyed some success in keeping pace with the upsurge, it cannot perform miracles. The author looks forward to a new equilibrium between the new death rate and the new birth rate to be re-established by the use of human intelligence.

The studies in demography included in the work are not of a difficult or technical nature. The articles, 48 in number, have been contributed by a wide variety of authors: religious leaders, biologists, demographers, marriage counselors, economists, and other social scientists. The articles are generally short--the average being between five to ten pages; this length would make them suitable for reading by secondary students during class period or a library period. The appeal is general--but the approach is generally an investigation of just why there are so many people and just what we are going to do with them now and in the future.

The obvious inclusions are here--such as several articles representing the Catholic view, the Protestant view, the biological sciences view, the poverty-economic view, the have versus the have not view, etc.; there are, in addition, however, several totally original and quite intriguing articles, which tend to give the whole book a more imaginative approach. One of these articles, by A. M. Carr-Saunders, entitled "The Small Family Problem," explores the idea that race suicide may result if voluntary parenthood ideals are carried to their extreme. He explores the history of family planning--i.e. by various means as delayed marriage, infanticide, abortion, and contraception. His evidence is not too convincing, as there is so much contrary evidence to indicate that we are far outdoing the "replacement rate"; nonetheless, the approach is an interesting and provocative one and is representative of the iconoclastic taste of the editor. General sections included in the reader are: Part I--Biological Factors (life expectancy, fertility, death control, Malthusian Laws). Part II--Economic and Political Factors (economic development, economic incentives, density effects, population and prosperity); Part III--Religious and Social Factors (social customs and fertility, voluntary families), and Part IV--Prospects for the Future (effect of crowding and stress, social pathology, new fertility research, freedom and the nature of man).

The Population Index--Quarterly publication of the Office of Population Research, Princeton University, and of the Population Association of America, Inc.

This journal consists mainly of a superb classified and annotated bibliography of all current publications related to population. In addition, it publishes in each issue one or two brief articles and some collections of population statistics. Because of the relevance of this publication to any up to date population study, a sample Table of Contents from the journal is reproduced below to give some indication of the types of works generally under review.

CONTENTS

Current Items

(articles)

Bibliography

- A. General Population Studies and Theory
    - A_1 General Titles
    - A_2 Theory
    - A_3 Interrelations with other disciplines
    - A_4 Textbooks and Teaching Programs
- B. Regional Population Studies
    - B_1 Historical Studies
    - B_2 Regional Demography
    - B_3 Surveys containing Demographic material

C. Spatial Distribution

- C_1 General Spatial distribution
- C_2 Urban Patterns
- C_3 Rural Patterns

D. Trends in Population Size

- D_1 Past trends
- D_2 Estimates
- D_3 Projections and Predictions

E. Mortality

- E_1 General Mortality
- E_2 Prenatal and Perinatal mortality
- E_3 Infant Mortality
- E_4 Mortality at other ages
- E_5 Life Tables
- E_6 Mortality by Social and Economic Groups
- E_7 Mortality by cause

Kenneth Crawford, "Birth Control," Newsweek, Vol. 66, July 12, 1965, p. 32.

A discussion of the change of governmental and public attitudes in America toward the subject of birth control. The subject, taboo as late as the Eisenhower administration, is now one of constant concern in Washington. The article discusses in some detail the Gruening Bill, which advocated putting the government in the business of disseminating birth control information at home and abroad.

Marya Mannes, "The Threatening Crowd," Readers Digest, Vol. 86, February 1965, pp. 173-176 (condensed from Ladies Home Journal).

The population explosion is explained as the most crucial battlefield of the War on Poverty; a non-mathematical equation is offered: "People minus Space equals Poverty." Ways of avoiding catastrophe due to overpopulation are outlined--we must educate everyone, the rich and the poor, to the peril of unchecked procreation; we must encourage birth control legislation; and we must foster attitudes of responsible restraint on persons presently wishing for "a house full of children."

John D. Rockefeller, "The Hidden Crisis," Look, Vol. 29, February 9, 1965, pp. 75-80.

Mr. Rockefeller asks whether America is really bigger and better for its rapidly increasing population, and answers that decidedly it is not. He gives reasons by delineating the details of the population growth--which, he claims, is potentially more dangerous than nuclear weapons. The article is a good thumb nail summary of the successes of family planning programs around the world and a listing of three steps we can take as responsible citizens to act constructively: 1) We should inform ourselves more fully about the population problem; 2) We should encourage and support greater governmental action on population matters and 3) We should consider the future well-being of our own communities in planning the size of our own families.

Carl E. Taylor, "Health and Population," Foreign Affairs, Vol. 43, April 1965, pp. 475-86.

A comprehensive article which reviews health care and health programs around the world and attempts to measure their effectiveness. It is intended to challenge statements such as "Your health experts are just too efficient; you create more problems than you solve." The author maintains and gives evidence for his contention that it is uncivilized to withhold medical care from people, and thereby contribute to a higher death rate which would help stem the population increase--which, in any case, is understood by him as not uniformly bad in nature.

______. "Middle-Class Litters," Nation, Vol. 200, June 28, 1965, p. 687.

Examines the belief that unchecked population growth is a critical American problem and not merely something for

Asians, Africans, or Latin Americans to worry about. The article also explores the idea that, on the one hand, a projected American second stage baby boom would overload the environmental possibilities and overtax school and recreational facilities drastically, while, on the other hand, this population increase may remain one of manageable magnitude because since 1957 the fertility rate of women in the childbearing years (15-40) has declined and is now back to where it was in 1950.

______, "Food: Population Trends Move U.S. to Tie Aid to Self-Help," Science, Vol. 152, May 6, 1966, pp. 732-34.

This article investigates proposed revisions of foreign aid and domestic agricultural policy, which have been designed to counter the looming world food shortage. Because of the changing picture of U.S. agriculture, it seems that food programs can no longer be governed by surpluses; the fact that surpluses of many foods are disappearing must eventually lead the U.S. to some sort of commodity reserve policy. President Johnson painted a gloomy picture in 1966 when he warned that "candor requires that I warn you the time is not far off when all the combined production on all the acres, of all the agriculturally productive nations, will not meet the food needs of the developing nations--unless present trends are changed."

______, "Population 6,000,000,000," New Yorker, Vol. 42, September 10, 1966, pp. 47-49.

By the year 2000, there will be 6 billion people on the earth and the whole world will become jammed like a gigantic cocktail party. Mr. Macura, of the Population Division of the UN Secretariat reports that the major problem in the year 2000 will probably be housing and employment--not food. Because the major part of the increase is seen as coming from the underdeveloped areas of the world, the industrial countries must become increasingly concerned with what goes on in the underdeveloped countries. The ideal situation is seen as a balanced growth in which population and economy keep pace with each other.

______, "The Population Clock Approaches Midnight," Christian Century, Vol. 82, December 28, 1966, pp. 1592-593.

Marks the year 1970 as the year when man would reach the moon through superior technology, but would also be marked by famine and plague for his abysmal human failure in controlling his own rampant reproduction. The article concludes that "man must will, scheme and work his way out of this trap--or die!"

______, "Tax on Babies to Limit Population," U.S. News and World Report, Vol. 60, January 31, 1966, p. 11.

This report of findings presented at a population symposium by Dr. Robert C. North, Professor of Political Science at Stanford University, warns that "the time may not be far off when some societies, at least, may find themselves forced to tax families for more than a minimal number of offspring."

The particular societies are not specified, but the present trend of rapid population increase is seen as leading toward starvation, depletion of natural resources, and even cannibalism!

Thomas K. Burch, "How Many Americans Will Be Too Many?" Catholic World, Vol. 203, July, 1966, pp. 213-19.

The author discusses the role of the Catholic in family planning. He asserts that "Catholics generally have been so concerned with the ends of marriage and the morality of contraception that they have not studied the costs of rapid population increase." The Catholic answer to the population problem is seen as not at all clear, but Catholic theologians and laymen are urged to give more thought to the broader aspects of population and human fertility.

Oliver Jensen, "The Shape of Things Practically Here," American Heritage, Vol. 17, No. 4, June 1966, pp. 44-49.

Description in fable form of a young republic which 'thought big.' The creation of a nation out of its vast wilderness is chronicled and illustrated. "The city in our fable grew and grew . . . of course, it was a fictional place but it came by 1966 to look more and more like Washington D.C."

The final illustration shows a polluted city crowded to the bursting point with people carrying placards with slogans such as "Fill in the Grand Canyon"; "We Need Space"; "Stop Birth Control," etc.

Harrison Brown, "If World Population Doubles by the Year 2000," U.S. News and World Report, Vol. 62, January 9, 1967, pp. 51-54.

This interview with a noted population expert makes clear the fact that a declining birth rate does in no way mean that the U.S. can forget about problems of overcrowding. The outlook in countries where the birthrate is growing at an even faster rate is, of course, worse; but Dr. Brown is concerned mainly with the probable future of U.S. cities if the population continues to increase. He concludes that the "population explosion carries all the elements of catastrophe--famine, plague and major wars. Even here in our own country we are in for serious trouble."

George McGovern, "We Are Losing the Race Against Hunger," Look, Vol. 31, March 7, 1967, pp. 36-92.

Mr. McGovern reports that the world is running out of food and that, unless stringent measures to the contrary are taken immediately, hundreds of millions will starve within the next three decades. He enumerates the chief factors behind this situation as follows: food production is increasing at a rate of 1% annually, while population is growing at a rate of 2%; population is growing fastest in areas where food production lags most; food output is hardest to increase in areas where population pressure is most intense.

The author sees the first step to victory as being a clear recognition of the vital role that agriculture plays in our civilization. He recommends family planning measures also, but sees them as effective only in conjunction with accelerated food production.

Frank W. Notestein, "The Population Crisis: Reasons for Hope," Foreign Affairs, Vol. 46, October 1967, pp. 167-80.

Discusses the crisis of population growth around two themes: its potential danger and hope that the situation will be resolved during this century. Deals predominantly with technologically backward nations and concludes, despite much evidence to the contrary, that "we do have reason to believe that the problems can be solved by a world fully alert to the dangers and willing to devote serious resources and energy to attacking them."

Steward L. Udall, "Our Perilous Population Implosion," Saturday Review, Vol. 50, September 2, 1967, pp. 10-13.

Former Secretary of the Interior Udall maintains that we should worry less about the perils of overpopulation as such and should learn the art of "growing right." He claims that America's basic social problems may never be solved unless we create a new environment which is more compatible with the human spirit. The author concludes: "I would have no fear for my country's tomorrows if we would turn toward creative parenthood and creative education, if we already had established the secure foundations of an equal opportunity society and mastered the sensitive arts of building a life-encouraging environment."

______, "Population: What Explosion?" Newsweek, Vol. 69, May 8, 1967, pp. 55-56.

The article reviews a recent speech by sociologist Donald Bogue in which Dr. Bogue maintains that "the rate of world population growth will slacken at such a pace that it will be zero or near zero about the year 2000." Evidence is given to support this position.

______, "Putting a Brake on Runaway Birth Rates," Business Week, No. 1986, September 23, 1967, pp. 76-78.

This research article is concerned with overpopulation in the developing world, generally, and particularly with India and Latin America. The article claims that the major hope for population control in these areas is that the U.S. will increasingly supply them with contraceptive products at a reasonable cost, or, even better, free of charge.

Donald J. Bogue, "End of Population Explosion," U.S. News and World Report, Vol. 64, March 11, 1968, pp. 59-61.

Dr. Donald J. Bogue, Past President of the Population Association of America and present Director of the University of Chicago's Community and Family Center, answers questions dealing with the recent decline in the U.S. birth rate. In answer to the question, "Are you saying that the world may be on the way to solving the population crisis?" Dr. Bogue replied:

> It seems to me that our prospects of doing so are much better than we ever dared to hope for five years ago. In fact, I see no reason why the world's population explosion can't be brought under control by the year 2000. I am assuming, of course, that there is no slackening off--and, hopefully, an acceleration--of the birth control campaigns that have been started.

Kingsley Davis, "Colin Clark and the Benefits of an Increase in Population," Scientific American, Vol. 218, April 1968, pp. 133-38.

In this book review of Colin Clark's work entitled "Population Growth and Land Use," Mr. Davis explores Mr. Clark's view of population economics. Basically, Davis disagrees with the optimistic view presented by the author, and this review article is an attempt to tell why he does so. Mr. Davis states:

> The economic benefits of rapid population growth in Clark's theory are all on the basis of other things being equal. The benefits will be gained if population growth influences no variables in the system other than the ones it is supposed to influence favorably. The ground for expecting adverse economic effects, however, is precisely that as population growth proceeds, it tends to damp various crucial factors.

David Lawrence, "Redistribution of People," U.S. News and World Report, Vol. 64, January 22, 1968, p. 104.

A redistribution of population, preferably by voluntary means, is seen as a key to employment opportunity. The author recommends that the Federal Government, in cooperation with the states, counties, and cities, set up a nation wide service which would promptly inform individuals of job vacancies in other cities, towns, or villages across the country. Mr. Lawrence maintains that such a system would naturally redistribute population and that "it could eliminate some of the principal causes of the racial maladjustment in America today."

Roger Revelle, "Too Many Born? Too Many Die," Horizon, Vol. 16, Summer, 1968, pp. 32-37.

Demographer Roger Revelle, Head of the Center for Population Studies at Harvard University, discusses the likelihood that if the birth rate were brought under control, the population growth would limit itself. As evidence, he cites the fact that "the chief factor behind the high birth rates of the less developed countries is the desire to have surviving sons."

He maintains that societies must shift cultural patterns in such a way that they would minimize the benefits of having large numbers of children and reduce, at the same time, the dependency on surviving sons. Several changes in this direction are suggested: a) Institute compulsory education for eight or more years, thereby removing younger children from the labor force. b) Provide jobs for women. c) Make consumer goods available at low costs, providing the opportunity for parents to raise their living standard rather than spending whatever money they have on larger families. d) Establish a strong social security system. e) Shift more of the population from agriculture to industry.

John B. Sheerin, "The Birth Control Encyclical," Catholic World, Vol. 208, October 1968.

Discusses the debate set in motion by Pope Paul's ban on contraceptives and makes the point that the Pope did not speak infallibly on the question and did not, therefore, close off discussion. The author realizes that "the great towering obstacle to human development in the underdeveloped countries is overpopulation" and expresses a desire that the crisis can be surmounted if all avenues of communication between Pope, Bishops, clergy, and laity are kept open for discussion.

______, "Since Last Week, 1,250,000 More of Us!" Christian Century, Vol. 85, November 13, 1968, pp. 1424-425.

Enumerates startling population data from the 1968 "United Nations Demographic Book" and explores the need for the religious conscience to reckon with this data. The issue of birth control is seen as clouding with uncertainty and potential frustration any Catholic/Protestant/Orthodox ventures in International development.

Charlton Ogburn, "Castrophe by the Numbers," *American Heritage*, Vol. 21, December 1969, pp. 114-117.

Although in terms of the standard of living and the potential for individual advancement, America is not overcrowded by the world's standards today, it is the most overpopulated nation on earth in terms of consumption and pollution. Mr. Ogburn warns that we must cut our population growth rate or "witness the desolation of what remains of the natural world around us and the closing of avenues of escape from the mounting tensions of an increasingly overwrought, high pressure civilization."

S. Fred Singer, "Is There an Optimum Level of Population?" *Science*, Vol. 166, October 10, 1969, pp. 270-71.

A discussion of the factors which provide possibly useful upper limit guidelines to the level of population and of the interaction between these factors. It is stressed that food production in the U.S. does not really provide a meaningful upper limit to the population, as it does in many less developed nations.

________, "Catholics and the Population Explosion," *Transaction*, Vol. 6, June, 1969, pp. 8-10.

This article candidly investigates the supposedly widespread belief that the Roman Catholic Church is in large part to blame for the population explosion. The author concludes that this allegation is not true because, although, "the Catholic birth rate is higher than Protestant within any given society, the Catholic birth rate has declined substantially in every country where control over births is possible." Statistics for specific European countries are presented.

Morris K. Udall, "Standing Room Only on Spaceship Earth," Readers Digest, Vol. 95, December, 1969, pp. 131-35.

The author, a Congressman from Arizona, maintains that mankind's main problems today either stem from or are intensified by overpopulation and by what he calls the "sheer excess of people." Specific aspects of the problem are presented; Udall favors measures to combat the problem such as the following: a) have the Congress and the President declare it the goal of the U.S. to encourage voluntary population control and b) authorize the Federal Government to co-ordinate research and programs having to do with population growth and its relationship to the natural environment.

______, "Unwanted People," New Republic, Vol. 161, August 2, 1969, p. 7.

A brief historical overview of American Presidential interest and intervention in the subject of population control. Contributions of Presidents Eisenhower, Kennedy, Johnson, and Nixon are discussed and evaluated. The author concludes that what is now required is more financial appropriation by Congress for basic population research.

______. "World's No. 1 Worry--Too Many People," U.S. News and World Report, Vol. 66, March 17, 1969, pp. 48-52.

The article discusses various aspects of the world situation at a time sometime in the near future when there will be 6 billion people, in light of the fact that the world is presently having considerable troubles with its 5.5 billion inhabitants. The outlook is grim: famine, violence, riots, revolution, and wars are foreseen.

Stewart Alsop, "Dr. Calhoun's Horrible Mousery," Newsweek, Vol. 76, August 17, 1970, p. 96.

The implications for humans of ecologist Dr. Calhoun's experiments on the effects of overcrowding on mice are explored by Mr. Alsop. Dr. Calhoun has reportedly found that the experience of overcrowding of mice did something to the programming of the central nervous system of those mice which survived the overcrowding situation. Steward Alsop links these experiments with younger generations who, he claims, experience this sense of crowding--the feeling of 'too many elbows.' He quotes psychologist William Kesen as saying that today's young have "an odd sense of futurelessness--they never seem to want to talk about their own futures at all."

Wayne H. Davis, "Overpopulated America," New Republic, Vol. 162, June 10, 1970, pp. 13-15.

In this rather pessimistic article, Mr. Davis defines overpopulation as the 'condition a nation experiences when, by virtue of its numbers and activities, it is rapidly decreasing the ability of the land to support human life.' The U.S. unfortunately wins first place in the grim competition. Although Mr. Davis hopes that the U.S. can help its own poorer citizens attain a decent standard of living, he concludes that "our most urgent task to assure this nation's survival during the next decade is to stop the affluent destroyers!"

William Dean, "An International Morality Lottery," Christian Century, Vol. 87, April 15, 1970, pp. 449-50.

The author of this article contends that current procedures of birth control are defective and attempts to make the following four points in connection with this contention: 1) the exaggeration indulged in by commentators on the population problem; 2) the fallacy in their arguments concerning population policy; 3) a contrary argument regarding population policy and 4) a practical plan for population control.

His proposal is a Mortality Lottery, in which every Earth Inhabitant between 30 and 40 would be in a lottery pool; each year 5% of those in the pool would be drawn and, consequently, over a 10-year period, every individual in this category would have a fifty-fifty chance of immediate extermination. Individuals concerned could either buy their way out or hire a substitute. Whether the author is making this proposal in jest or not is unclear--but he maintains, as a theologian, that the highest dignitaries in the church and government should be involved in making the lottery work.

Paul R. Ehrlich, "Are There Too Many of Us?" McCalls, Vol. 97, July 1970, pp. 46ff.

"Most American women do not realize that by having more than two children they are unknowingly contributing to the early death of those children." In this tone, Mr. Ehrlich explores his theory that Americans are equally responsible for population explosion along with those in nations which are actually more populated. He reviews the deterioration of the environment, and concludes that, in the U.S. alone, half as many people would more than double the quality of the environment.

Paul R. Ehrlich and John P. Holdren, "Hidden Effects of Overpopulation," Saturday Review, Vol. 53, August 1, 1970, p. 52.

In exploration of several of the more subtle aspects of the relationship between population growth and environmental degredation which, the authors claim, operate to make man's predicament even more perilous than superficial analysis would indicate, the authors report the following: the problem consists of many aspects, some of which are more obvious than others; several of the less obvious of these aspects discussed by the authors are these four:

1. synergisms--interactions of 2 or more parts which produces a sum greater than its parts.
2. threshold effects--the effects which ensue when the tolerance level is exceeded; the result is potential climatological disaster.
3. trigger effects--an environmental balance is upset by a relatively small, man-made input.
4. time lag effects--refers to situations in which causes may precede their effects by years or even decades.

Lawrence A. Mayer, "U.S. Population Growth: Would Slower Be Better?" Fortune, Vol. 81, June, 1970, pp. 80-83.

The paradox that the movement to curb population growth in the U.S. has come into prominence at a time when the birth rate is at its all-time low is explored in depth. Ways of reducing the adverse effects of population growth are mentioned; several include the following: reduce the standards of consumption; make organizations and individuals pay the full costs of their environmentally destructive or pollution-causing activities; perfect utilization and recycling of materials to cut down on overuse of natural resources.

Roger L. Shinn, "Population and the Dignity of Man," Christian Century, Vol. 87, April 15, 1970, pp. 442-81.

Although human life is seen as a glorious gift to the theologian author of this article, he has little doubt but that there can be too many lives for the good of mankind in general. He explores the perplexity of modern man and the modern church over population problems and sees hope for the future only in population policies which may emerge from a well-informed participatory democratic system.

_______, "The Drive to Stop Population Growth," U.S. News and World Report, Vol. 68, March 2, 1970, p. 368.

This article is a good overall view of the campaign to reduce the U.S. population growth rate to zero. "Unless something is done, warn officials, sheer numbers of people can overwhelm U.S."

The article concludes, "Many of those who have closely studied population trends stress that, no matter what the government does, it will be the American people themselves who determine what happens to the nation's population growth rate."

_______, "Economic Growth: New Doubts about an Old Ideal," Time, Vol. 95, March 2, 1970, pp. 72-74.

Questioning the until recently generally accepted proposition that economic expansion necessarily fosters human progress, this article cites specifics such as poisoned air and water, clotted highways, nerve jangling noise, reeking dumps and ugly countryside as possible evidence to the contrary. The article reports that "in some cases and some places, slower development can be a positive benefit. The job for the nation's economic managers now is to resolve the conflict between the dividends and the damages of growth."

_______, "Population Explosion," New Republic, Vol. 162, January 31, 1970, pp. 28-30.

The most serious manifestation of the population explosion in the U.S. is seen as pollution. The poor, particularly the blacks, although they often express the fear that birth control means genocide to their group, would be supporters of a birth control system which would be implemented on a completely non-discriminatory basis rather than on some sort of economic sanction basis. If the birth rate could be limited so that it just balanced the death rate, there would result a system in which families would, supposedly, raise two children in peace and material comfort.

_______, "Surprises in the Census," U.S. News and World Report, Vol. 69, August 31, 1970, p. 17.

Some major surprises of the census have been isolated by demographers and are presented as preliminary census findings. For example, the rate of population growth has declined steadily since 1960; the migration to cities and suburbs from farm and rural areas during the decade was greater than anticipated; more than half the nation's counties lost population in the 60's; the median family income in the decade rose 75 percent. Also presented is a listing of states by number of population rank.

______, "Twice as Many People in the Next 36 Years," U.S. News and World Report, Vol. 69, November 9, 1970, pp. 29-30.

A Report of what the experts see when they look into the future and ask if there will be too many people in the world. The dangers foreseen include famine, more poverty, and increased violence. Although the world's birth rate is down, so is the death rate, so no actual slowing in population is expected outside of the "advanced" nations, where population control is being practiced on a big scale.

______, "The 70 Census: How Many Americans and Where They Are," U.S. News and World Report, Vol. 69, September 14, 1970, pp. 22-25.

The article clearly explains the new picture of America which emerged from the figures of the 1970 census. Of particular interest are the following findings: the total number of Americans is between 204 and 205 million; people are continuing to move west; people are tending to prefer suburban to urban life; people continue to leave farms and seek jobs in industries; industries are, increasingly, locating in the countryside away from major urban areas.

______, "World Population," Natural History, Vol. 79, January 1970, pp. 60-62.

This 3-page chart representing world population figures is the median of three estimates made by the United Nations.

Figures are given for 1970, 1975, 1980, and 1985 by continent, and include: statistics on birth rate, death rate and life expectancy per 1,000 persons. The figures are based on 1965 data, the most recent year with complete data.

Harrison Brown, "After the Population Explosion," Saturday Review, Vol. 54, June 26, 1971, pp. 11-13ff.

This article poses the question, "In what kind of world are you willing to live?" The author explores several scenarios of the near future when a plane flight from Los Angeles to New York may well reveal a landscape that looks like Los Angeles all the way. Specific problems related to overcrowding--such as the cooling of the earth which will be necessary to combat the heat generated by nuclear power plants; pollution; urban problems, etc., are discussed in some detail.

Wayne H. Davis, "We Must Stop Population Growth," Field and Stream, Vol. 76, June, 1971, pp. 20-22.

Dr. Davis discusses the population problem from an environmentalist's and a sportsman's point of view. He reports that we are destroying over a million acres a year and that "unless we meet and solve this problem soon, all other efforts in behalf of wise wildlife management are futile; we will have neither fields to hunt nor streams to fish when our youngsters grow up."

Paul R. Ehrlich and John P. Holdren, "Impact of Population Growth," Science, Vol. 171, March 26, 1971, pp. 122-127.

Maintaining that "complacency concerning this component of man's predicament is unjustified and counterproductive," the authors examine various facets of population growth--such as per capita input in relation to population size, the meaning of the environment to the individual in crowded and non-crowded situations, population distribution and global resources. The authors present a series of solutions both theoretical and practical to the problems created by too many people.

Garrett Hardin, "Nobody Ever Dies of Overpopulation," Science, Vol. 171, February 12, 1971, p. 527.

The choice of title for this article was dictated by sarcasm: Mr. Hardin maintains that in fact many people are already dying of overpopulation, although society generally identifies the cause of death as something else. He poses the question, "How can we control population without recourse to repugnant measures?" and responds that the first step toward workable answers would be to open our minds to an already existing inventory of possibilities. He reviews these possibilities.

David McKay, "Banned Parenthood," Catholic World, Vol. 214, December 1971, pp. 136-38.

Mr. McKay's article is in the form of a book review of a work by Anna and Arnold Silverman; the book under review is entitled, "The Case Against Having Children." This book apparently presents the thesis that parenthood is not the only option and that people should have either no children at all or at least very few children, if they wish to exhibit their social consciousness. Mr. McKay criticizes this position as being difficult to understand but he does agree with the Silvermans that . . . "this is surely one way of keeping the soaring population down."

CHAPTER III

SOURCES OF ADDITIONAL POPULATION INFORMATION

There are many organizations engaged today in population research; following is a reference list of some of these organizations. All of the organizations included in the list have an interest in educating the public to certain aspects of the population problem and many have special educational service departments.

Organizations Engaged in Population Research

1. American Freedom from Hunger Foundation
   1717 H. Street N.W.
   Washington, D.C. 20006

2. Ford Foundation
   320 E. 43rd Street
   New York, New York 10017

3. Foreign Policy Association
   School Services Division
   435 E. 46th Street
   New York, New York 10017

4. Hugh Moore Fund
   60 E. 42nd Street
   New York, New York 10017

5. Population Association of America
   c/o Anders S. Lunde
   P. O. Box 14182
   Benjamin Franklin Station
   Washington, D.C. 20044

6. Population Council
   245 Park Avenue
   New York, New York 10017

7. Population Crisis Committee
   1730 K. Street N.W.
   Washington, D. C. 20006

8. Population Reference Bureau
   1755 Massachusetts Avenue, N.W.
   Washington, D.C. 20036

9. Rockefeller Foundation
   111 W. 50th Street
   New York, New York 10020

10. United Nations
    Economic and Social Information Unit
    Room 250
    United Nations Building
    New York, New York

11. Victor Bostrom Fund
    c/o General William H. Draper, Jr.
    1713 K. Street, N.W.
    Washington, D.C. 20006

CHAPTER IV

SUGGESTED THEMES FOR A STUDY OF POPULATION FOR SECONDARY SOCIAL STUDIES

The theme and activity outline which follows is described in terms of major ideas, statements, and concepts; each specific theme includes a short discussion or presentation of selected significant factors in the study of population on a particular topic or in a particular given area. All the themes (12 in number) are seen to be significant; but, as there are definite limitations of existing curricula and available materials suitable for social studies classrooms, the themes have been arranged in two major divisions. The divisions are as follows: 1) *Background*: causes and implications of the population explosion; and 2) *Possible Solutions*: a compilation of possibly workable and probably non-workable solutions to the population problem, as advanced by various religious, national, scientific and other groups.

These themes could be combined in a course; or they might be used individually as parts of another course in world geography, world history, family life, sociology, or government. For example, the theme "Our Present Situation of Overpopulation Didn't Just Happen; It Can Be Traced

Historically," might be dealt with in a world history course; and the theme "Population and Pollution" might be worked into a world geography unit on environmental problems.

This theme listing begins with a background overview of the population explosion as we have come to understand it in the 20th century. These first seven units are intended to help students develop an understanding of the basic problems which the world's rapidly growing population is causing. They are designed to develop the students' insight into a problem which has become one of the major concerns of human ecology, and one which is paralleled in revolutionary potential only by the extremely rapid growth and advancement in the fields of science and technology. Basic problems of the earth's potential to support ever increasing numbers of people are considered.

The second section, which contains five units, includes theoretical units in which various solutions to the population explosion are suggested. The prospects for future population control, population stabilization, or population decrease remain uncertain in the extreme; it is as difficult to foresee future population levels as it is to predict whether or not there will be a World War III, or whether or not the industrialized nations will decrease their commodity and resource consumption relative to the underdeveloped nations--thereby achieving a more equitable distribution of available goods between the more fortunate and the less fortunate. The spectrum of opinion on what has to be done about the population increase, what cannot be done about it, and what must not be done about it is indeed broad. The Prophets-of-Doom school claims that we are heading for catastrophe on every front (overcrowding, over consumption of food and other resources, pollution, etc.), if we do not set about immediately to curb our population. Critics of population control are equally vociferous, although not by any means unified in their thoughts; some, whether out of political or religious conviction, propose a system in which population growth will occur at its own natural rate, with no artificial controls being applied; others see power in large numbers and do not object to population curbs, as long as they are applied to groups other than their own.

These opinions are used as analytical tools in working with the following themes.

SECTION I THEME #1: Development of an Essential Population Vocabulary

Commentary: Although there are many variations in term usage among demographers and population experts in general and although there is a rather high incidence on the part of authors in these two fields to coin new terms to refer to a specific situation, it is thought that the students might well begin their study of population by mastering the following terms and their definitions.

Terms	Definitions
1. Population	The degree in which a place is populated on inhabited; hence, the total number of its inhabitants
2. Population Explosion	A recent term, coined by biologist Paul Ehrlich, to explain the rapid population growth which has resulted in too many people in the world
3. Population Bomb	The combination of factors which has set off the population explosion, including high birth rates, lower death rates, improved medical care, etc.
4. Ecology	The science of environmental protection
5. Overpopulation	Too many people occupying a given space at a given time; this condition causes environmental, physical, and psychological problems
6. Optimum Population	That number of inhabitants which is understood as the best number, i.e. that number which would allow space and opportunity for individual development and which would diminish deterioration of the earth's resources through over use and depletion

7.	Zero Population Growth	A stabilization of population growth rate at zero--where the birth rate and death rate would be brought into line with each other.
8.	Family Planning	The desire and ability of a family to determine the number of children it wished to bring into the world
9.	Birth Rate	Number of births which occur per given number of people--generally expressed as births per thousand people
10.	Death Rate	Number of deaths which occur per given number of people--generally expressed as births per thousand people
11.	Population Growth Rate	That rate at which the absolute number of people grows over a given period of time, taking into account birth rate, death rate, infant mortality, etc.
12.	Population Stabilization	Bringing into line of the birth rate/death rate ratio in such a manner that the population growth rate diminishes and stabilizes at some desired level
13.	Demography	The study of population

Suggested Activities

1. Pass out a sheet of paper to each student with the terms and definitions given above listed in opposing columns; give them 10 minutes to study the list, and then ask them to try to match correctly as many as they can during a 15 minute time period.
2. Present the correct answers and explain each term.
3. Ask for questions on any of the terms of the definitions.
4. Assign a matching quiz (to be graded) and given in class the following day.

SECTION I THEME #2: Major Generalizations Related to Population

Commentary: During the period of study of population, students are going to begin to form opinions about further population growth in the U.S. and in the world in general; they will certainly make personal decisions about their own family size in the not too distant future and some of them, perhaps, will be involved in policy making situations on a more far reaching level. As these decisions are ones with consequences to society as well as to the individual, it is important that they be made with adequate and relevant information. Following are some basic generalizations related to the implications of increasing populations, which should help students form a clearer and more concise understanding of the situation.

Generalizations

1. Modern medical techniques, inoculations, and insecticides have contributed greatly to reducing death rates; rising birth rates have combined with this factor to produce rapid population growth.
2. Population growth in developing areas results in food shortages, unemployment, natural resource depletion, inability to industrialize quickly enough, and in numerous general social ills.

3. Population growth in developed nations increases environmental and psychological problems and lessens individual opportunity.
4. Migration is no longer the solution to overpopulation, as the earth's surface is now nearly devoid of areas such as the 'New World' which could accommodate earlier population excesses.
5. Family Planning can help families have the number of children they want when they want them; family planning activities are carried out in some areas, such as China and India, by the national government, and in other areas, such as the U.S. and most European countries, by private organizations.
6. Population trends change slowly because they are based largely upon long-standing traditions, one of which has often been that a large family is a desirable and a necessary thing.
7. Population growth can be reduced either by lowering the birth rate, or by increasing the death rate through natural phenomena such as famine and disaster, or through man made phenomena such as wars or euthenasia.
8. Population growth within any given society is determined by factors such as family structure, role of the sexes, age of marriage and child-bearing, traditional family size norms, longevity, technology, etc.

9. Population increases have social, political, and economic implications, as well as personal and individual ones, on both the national and world-wide levels.
10. Urbanization is a phenomenon which has accompanied population growth around the world and which impedes social progress and increases environmental problems generally.

Suggested Activities

1. Class discussion of each generalization that is recommended.
2. Students might be asked to formulate several further generalizations, which have occurred to them during the discussion and which could relate to any aspect of population.
3. Discussion of the relationship between the quantity of life and the quality of life can be a significant discussion topic. Students should define what a high quality life would entail in different types of societies--i.e., industrialized, agricultural, primitive, etc.--and establish standards by which to judge whether an even larger population would contribute to or deter from a high quality life.

SECTION I THEME #3: The Problem of Overpopulation Is a World Problem

Commentary: Overpopulation in any one country will eventually affect the world--first by affecting its neighboring country which will in turn affect its neighboring countries and so on. For example, the Latin American population growth rate has definite and dramatic implications for the U.S. When population reaches a level at which Latin American countries can no longer feed their citizens, what will the U.S. do? Will we rest idly by and watch masses of people starve immediately to the south of us?

In response to a speech by President Kennedy to the United Nations concerning a birth control clause addition to foreign aid programs, the Indian Ambassador to the U. N., Mr. Shankarnarayan, replied:

> The average American family dog is fed more animal protein per week than the average Indian gets in a month. . . . How do you justify taking fish from protein-starved Peruvians and feeding them to your animals? I contend that the birth of an American baby is a greater disaster for the world than that of 25 Indian babies.[1]

Suggested Activities:

1. Begin the study of worldwide implications of overpopulation by reading selection from A Geography of Population: World Patterns, by Glen T. Trewartha. His chapters on prehistoric, ancient, and modern populations present an

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[1] Ehrlich, Paul R., "Eco-catastrophe," in Anderson, Paul K., Omega: Murder of the Ecosystem and Suicide of Man. Dubuque, Iowa: Brown & Co., 1971, p. 403.

excellent case for viewing population throughout history on a worldwide basis. Mr. Trewartha's work, which stresses world patterns of population, gives an excellent overview of population themes in a world pattern.

How many people are there now on the earth? How many have there been at various past dates? How are they distributed? How do population trends in one area affect those in another?

2. Ask students to formulate four or five generalizations on interrelationships between regions or countries in connection with population matters. The teacher might suggest main topics for these generalizations--such as economic aid, foreign aid in general, political maneuvering for 'lebensraum,' mass migration, etc. (such as these phenomena are described in Organski, Population and World Power).

   They might be asked to comment on the statement, "No man is an island, no man stands alone." Is overpopulation in India, for example, of concern to them today as students in the United States?

3. Collage activity: using the overhead projector to show a transparency of a world map, or a ditto handout to show a world map, review with students the population concentrations in certain areas, such as Asia, India, Latin America, etc. Stress the variation between heavily populated areas and some lightly populated ones, such as

Australia and the U.S. Ask students to construct a collage which describes this world wide picture and answers the question, "How do these population concentrations relate to one another?"

The collages can be assembled and pasted on large sheets of construction paper using pictures from magazines or newspapers. Other materials and lightweight objects can be added if they are significant in describing population conditions in one area. The teacher might show students how parts of a collage can be related by using similar lines and colors. The teacher might stress that a collage is an abstraction which, in this assignment, should represent a student's concept of a given world situation.

Specific Readings:

List and description of relevant readings follows.

Blake, Judith, Donovan, Jerry. Western European Censuses, 1960: An English Language Guide. Berkeley, California: University of California, Population Monograph Series #8, 1971. 420pp.

This volume has as its overall value the fact that it has collected for general use the documents and materials on international census which may be used as a research source for persons interested in the structure, characteristics, and dynamics of the world's population. This material is otherwise scattered and, therefore, in reality, inaccessible to many researchers who would otherwise wish to make use of it. Also, the authors have translated the material into English, to simplify the task of comparative analysis. The census period studied is 1960 and the area under study is Western Europe, with its 22 languages.

The work is an excellent compendium in English of the contents of the Western European censuses for the 1960 period; it might be used on the secondary level either as a research tool or simply as a type of study to be observed--i.e., students could learn that demographers deal heavily in census material, though the students might not be asked specifically to become involved in such a problem themselves.

Chamberlain, Neil W. Beyond Malthus: Population and Power. New York: Basic Books, Inc., Publishers, 1970. 203pp.

The emphasis of Mr. Chamberlain's book is population in relation to other phenomena, such as 'distribution of privilege and authority,' 'technology,' 'forms of government,' 'distribution of wealth and income,' and 'international relations.' He is particularly interested in the ways in which the growth or decrease in size of a population, or a shift in its density or composition might affect social relationships. Somewhat related to discussions of the Lebensraum thesis in international power politics, this study attempts to broaden this thesis to include local and national, as well as international implications of power politics. He assumes that, although most societies contain major elements of conservatism since people do not want to lose whatever large or small perquisite of value which they would not like to have taken from them, the increasing pressures of a growing population create an ever more urgent need for changes in the social organization.

The author concludes that as the size of the total population grows, a trend would develop toward the centralization of governmental powers. This would be true because prompt action would be often demanded, and, as the situation would be too complex for the individual to handle, the advice of experts and the initiative of a central authority would be required. The increase of people and their concentration in urban areas would generate a further chain of effects such as those described following:

> technological developments would be oriented toward what society stamped as most urgent or most wanted . . . the market for and profitability of certain economic goods

> and services would increase relative to others, channeling the flow of inventive activity in their direction . . . there would be an absolute increase in the number of creative people and in those contributing to the knowledge base, with further effects on invention and innovation . . . the explosive potential on the part of those persons disproportionately disadvantaged on the social level would increase. . . .

Perhaps students could be given free reign to imagine further, deeper, and broader implications of increasing population pressures both in developing and modern nations. They could use Mr. Chamberlain's projections as a guideline.

Organski, Katherine, and Organski, A. F. K. Population and World Power. New York: Alfred A. Knopf, 1961.

A result of collaboration between a demographer and an expert in international relations, this book presents interesting and quite original information on topics such as the following: Population and Power; National Population Policies; Population and the Problem of War and International Migration. There are some charts and tables presented--some of them in the chapter on International Migration--which are particularly relevant; the study, however, is predominantly of an interpretive nature and comes to some rather surprising conclusions. For example, when speaking of population pressure and aggression, the authors conclude:

> The aggressors of the recent past had no legitimate need for the space they claimed and that they turned to military aggression for reasons far removed from overpopulation. The most overpopulated lands, on the other hand, have threatened no one. If population pressure

> caused aggression, we should expect to find the worst aggressors of the recent past and present suffering from overpopulation, which is not the case. Again, we should expect to find the overpopulated nations of today providing threats to the peace tomorrow.[1]

This book is thoughtful in the extreme, if not consistently well documented. There are many points considered which could provide the nucleus of a class discussion on the connections between politics, power, and population.

Trewartha, Glenn T. A Geography of Population: World Patterns. New York: John Wiley & Sons, Inc., 1969. 175pp.

This study, topical in approach, stresses world patterns of populations and gives an excellent overview of population distribution within the general theme of a world pattern. It is written in a very clear and straightforward manner. The opening sentence of Part I sets the tone of the volume: "The number of people is probably the most basic information about the earth and its regions."

The work contains many technical supporting graphs, tables, charts, and maps; these do not, however, presume any more than a basic ability to comprehend arithmetic and to make sense of simple graphs. The first two parts are set in a chronological framework: they study population numbers in prehistoric and ancient times, and also in the modern period.

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[1] Katherine Organski and A. F. K. Organski, Population and World Power (New York: Alfred A. Knopf, 1961), pp. 238-39.

Taken in conjunction with Edward P. Hutchinson's book, "The Population Debate," (which covers population in a historical survey from ancient to medieval to modern times), this could provide a good background in one aspect of population too often ignored by present demographers. Speaking of population change since 1850, Mr. Trewartha states his case clearly:

> In the century following 1850 the earth's population is estimated to have doubled; . . . it was a momentous fact that for over 150 years, until about World War I or perhaps a little later, it was the technologically advanced peoples of the earth, with European backgrounds, who had grown most rapidly in numbers. The population of the less developed parts of the earth lagged behind. But it is equally momentous that over the last few decades there has been a reversal in the positions of the more developed as compared with the less developed regions in population growth rates, and over the period 1950-68 growth in the latter has been half again as rapid as in the former.[1]

This clear statement of the situation is representative of the style followed throughout the work.

Perhaps most interesting to the secondary student would be the concluding chapter on cultural population characteristics, which makes a general survey of the world's peoples in regard to marital status, education and literacy, language and religion, mobility and migration, place of residence (whether rural or urban), economic well-being, and economic composition. Speaking of education and literacy, the author informs the reader that the information on the number of years of formal schooling, although it would be one of the best indices of a population's educational attainment, is a type of data now provided only by the censuses of the more advanced countries. He explains the difficulty of accurate measurement when dealing on a world-wide basis.

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[1] Glenn T. Trewartha, A Geography of Population: World Patterns (New York: John Wiley & Sons, Inc., 1969), pp. 68-69.

All in all, this study is a good representative work of population geography and helps to define population as a sort of point of reference from which all other geographic elements can be observed.

Wallace, Robert. A Dissertation on the Numbers of Mankind. New York: Augustus M. Kelley, 1969. 338pp.

This fascinating book is part of the Reprint of Economic Classics series; it contains many examples of English usage which sound quaint to the modern reader--quaint but intriguing. Originally published in 1809, the book has been revised, but it retains much flavor of its earlier period. The book is of historical value; it reminds the reader that there were whole schools of thought on population and population problems in earlier centuries which have now almost totally disappeared from consideration by modern demographers. Although written early in the 19th century, the work cites considerable evidence from classic times and postulates much from the rather limited base of established fact at a time when not many records were kept in the systematic fashion advocated by modern social science.

Though the modern social studies student is not expected to be conversant with the life style of the Carthaginians, Illyrians, Romans, and Greeks, they will remember having heard of these peoples in their World History course; perhaps it would be interesting to them to follow an elaborate attempt to calculate how many peoples there were in these societies, how they lived, how many of them died in wars with each other, how they passed on property from one generation to another, etc. It is of interest to note that, although the world population in ancient times was miniscule by today's standards, people often had the impression of crowding, as the major cities contained many people per square mile; people joined together for purposes of protection and communality, as well as for procurement of services, etc.

This study contains several fascinating tables which do not at all conform to more modern statistical rules. They are arithmetic, simple, and impressive because they are immediately illustrative of the point they are trying to make. One pyramidal table, for example, begins with a small number of persons at an arbitrary point; it then follows these people through 1,233 years with the approximate number of offspring which would supposedly be produced. The result is a huge pyramid--with the original small number of individuals being increased into the billions category. The method is simple, but the result is impressive and startling.

This work might be useful as a class reference--or perhaps it could provide some interesting material for reading aloud. It is of extreme interest, although it is definitely a peripheral book rather than a basic one.

SECTION I THEME #4: Our Present Situation of Overpopulation Did Not Just Happen; It Can Be Traced Historically

Commentary: The modern phenomenon which has come to be known as the 'population explosion' is different in quality, and certainly in quantity, from the projected human growth rate which was predicted even a few hundred years ago. Estimates of just when man appeared on earth and of information as to the size and distribution of prehistoric populations vary widely. An author on the subject finds the following:

> It is assumed that man first appeared about 600,000 years ago, a date which has been proposed for the dawn of the prehistoric era. However, this date obviously is a compromise, anthropologically speaking, between varying extremes. Since then, it is estimated that about 77 billion babies have been born. Thus, today's population of approximately three billion is about 4.0% of that number.[1]

The world's population has been growing since scholars began attempting to record their estimates of how many people existed at any given time; there were, to be sure, major setbacks in times of plague, famine, and war. These setbacks, however, were temporary in nature and gave way to the generally upward curve of population growth. This population explosion, which has become one of the major concerns of human ecology, can be placed against the backdrop of history in order to give students some idea of how the present situation evolved.

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[1] K. Y. NG, The Population Crisis (Bloomington, Indiana: Indiana University Press, 1965), p. 21.

Suggested Activities:

1. Students might be directed to play a game of 'population arithmetic,' such as the one beginning with a riddle: "What difference does a difference of one make?" They might relate this difference of one to numerous things, such as one vote in a close student body election, having one dollar versus having no dollar, having one car versus having no car, or having three children instead of two children.
2. The students might calculate, with the aid of a mimeographed chart, or one drawn on the blackboard, the geometric reproduction rates of the past and the current population growth rates projected into the future. Such a chart is shown and explained in the film Tomorrow's World: Feeding the Billions. (This film is described in the section on Relevant Project Materials, which follows).
3. Pyramids can be constructed by class members, either on work sheets at their desks or at the board, on which they portray several growth pattern situations. For example, the pattern in one generation of a family tending to produce 2 children each 20 years would look something like the following (and would significantly differ from the pyramid representation of a family tending to produce 5 or 6 children).

XX...1900	First set of parents
XX...1920	First set of offspring
XXXX...1940	Each child produces 2 children
XXXXXXXX...1960	" " " " "
XXXXXXXXXXXXXXXX...1980	" " " " "
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX...2000"	" " "

4. Begin the study of the intracacies of the historical development of the present population situation by reading certain selections relating to particularly significant periods in history--i.e., periods during which the world's population changed markedly. One such period would be the Industrial Revolution; begin this section by having the students read "The Population During the Industrial Revolution," by T. H. Marshall, in Population in History by David Glass and D. E. C. Eversley. What aspects of daily life during the Industrial Revolution are revealed? Why did the death rate fall so drastically during this period? What did scholars of the period think about the phenomenon of the burgeoning population?

Relevant Project Materials

1. Film: The Day Before Tomorrow (Color, 51 minutes. 1971) Distributor: Association Sterling Films, 600 Grand Ave., Ridgefield, N.J. 07657.

   States history of population growth patterns emphasizing present rapid growth trends throughout the world including the U.S. Indicates birth control is the first step in controlling growth.

2. Film: People by the Billions (B&W, 28 minutes, 1961) Distributor: Contemporary Films, McGraw-Hill, 330 W. 42nd St., New York, N.Y. 10036.

   Gives historical view of the death rate decline, then dwells on present day growth and crowding on all continents.

3. Film: Tomorrow's World: Feeding the Billions (Color, 54 minutes, 1968) Distributor: McGraw-Hill Film Preview Library, Princeton Rd., Highstown, N.J. 08520.

   Narrated by Frank McGee, this film opens with a clear portrayal of the history of population growth and the gravity of present growth trends in terms of widespread food shortages. It then focuses at length on various ways man is devising to farm the tropics, deserts, and oceans.

Specific Readings

List and description of relevant readings follows.

Beshars, James M. Population Processes in Social Systems. New York: The Free Press, 1967. 200pp.

Based predominantly upon quantitative research, this work is valuable chiefly as a source of figures and tables relating to demographic growth patterns in various areas of the world, including Europe, India, Japan, Puerto Rico, Egypt, and Sweden. The author assumes that, what he calls the gathering storm clouds of a world population crisis, are now ominously visible to all; he attempts to summarize the specialized research literature on the subject of population and birth control by examining the two major fields of population research which have developed in recent years, namely: (1) data-collecting procedures and (2) statistical techniques for summarizing this data.

Though perhaps too technical for generalized use by most secondary school students, the study might prove to be a useful resource for the teacher who wished to reproduce some of the particular charts and tables for class use; these charts and tables are of uniformly high quality.

The author draws some very original conclusions about the vast demographic changes which occur in the process of modernization. He finds that, coupled with the present inability of most peoples to find suitable territory to which they might migrate to find a better life, the level of individual aspiration in developing nations is actually going down as people find themselves less and less able to cope with the increasing demands of technological society. The question is raised whether this trend will lead in the direction of revolutionary activism--with its attendant political implications--or toward increased fatalism, as already sanctioned by traditional religions. The subject of urbanization as a demographic problem is dealt with in great detail, particularly in the chapter entitled, 'The Impact of Population Processes on Social Systems.'

This is a most enlightening book and one which makes use of much of the significant social research which has already taken place in the field of population.

Glass, David Victor, and Eversley, D. E. C. Population in History. London: Edward Arnold (Publishers) Ltd., 1965. 691pp.

This collection of essays in historical demography has attempted to breach the gap between older, more specialized, demographic studies and the newer, more informed and more systematic ones. It has purposely taken note of the great volume of work being done by national and international associations of historians and demographers at the present time. The collection consists of 27 articles, divided into a section of general information, one on Great Britain, and one on Europe and the United States. The chief value of the work is in its section on Great Britain, which includes much information on a country which very early became interested in, and consequently kept more detailed records on, its population than did other European countries--with the possible exception of France.

One particularly well written article by T. H. Marshall, entitled 'The Population During the Industrial Revolution' covers both statistical evidence of the period and evidence of other kinds and gives many and various logical explanations of phenomena of the period according to the evidence presented. The author of the article compares and contrasts the attitudes of contemporaries to the rising birth rate/falling death rate argument and concludes that those interested scholars of the period grossly underestimated the decreasing death rate as a factor in the burgeoning population. Mr. Marshall attempts to approach his stated problem from several angles. He reviews earlier research and takes advantage of hindsight to come to conclusions of his own, more in tune with what history has indicated to be true. This article, outstanding in a book of well chosen articles is a particularly good example of careful scholarship, in which the author combines historical research and analysis with original explanation and interpretation.

Malthus, Thomas, Huxley, Julian, Osborn, Frederick. Three Essays on Population. New York: The New American Library of World Literature, 1960. 138pp.

This Mentor book provides the reader with an extremely broad perspective on the population issue. It is made up of one nineteenth and two twentieth century essays--the later two having the advantage of hindsight over the former. Malthus is shown as mistaken in some of his claims; for example, his social doctrine contained the view that the only way to limit poverty and overpopulation was extreme poverty and suffering which would act as natural restraints on further population growth. History has shown that this is clearly not the case and that poverty and disease do not essentially limit the reproductive capacities of those who are forced to fight just to survive from day to day. Both Huxley and Osborn have the advantage of the many technical advances which have been developed since the time of Malthus.

Huxley concentrates particularly on Asia and reports that whereas Australia could support and actually benefit economically from a population increase, Japan is essentially undernourished and is able to exist only through aid given by the United States. Speaking of India, Huxley relates the horror of a festival crowd of four and a half million people. He relates:

> I shall never forget the spectacle of this enormous human ant heap, with its local condensations of crowds converging onto the temporary pontoon bridges over the Jumma to reach the sacred bathing grounds. A crowd of this magnitude makes a frightening and elemental impression: it seems so impersonal and so uncontrollable.

> This impression was all too tragically borne out three days later, when the crowd got out of hand and trampled 400 of its helpless individual members to death.[1]

He admonishes his readers to face up to the implications of world overpopulation, or look forward to increasing happenings such as the one described above.

Osborn's article is a very interesting report of an Ad Hoc Committee forced in 1955 by the Population Council and other interested persons to study various means of approaching the population problem. These persons found cause for concern in population growth in the underdeveloped areas because increased population generally means immediate hardship. He concludes, however, that population growth in the U.S. and the Soviet Union presents a problem as well because such growth would make for increasing demands on the world's resources at a time this demand can be less well met.

An interesting survey of population theory and population thought by perceptive scholars with a common concern, but separated by several centuries of experience.

National Academy of Sciences. Committee on Science and Public Policy. The Growth of World Population. Washington, D.C.: National Academy of Sciences, 1963. 38pp.

This monograph was written with the declared intention of stimulating the scientists in particular, and the population in general, to consideration of the problem of uncontrolled population growth. It is hoped, according to Frederich Seita, President of the National Academy of Sciences, that the work will also incite people to action to stem the tide of the ever-growing population.

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[1] Malthus, Thomas, Huxley, Julian, Osborn, Frederick, Three Essays on Population (New York: The New American Library of World Literature, 1960), p. 71.

The study contains well organized and basic information on the following population aspects: an overall view in the form of a general introduction; conclusions on the world population problems; social factors; bio-medical factors; and a summary statement of concern. The general tenor of the study is optimistic. In the introduction, the reader is told that the authors have found the following:

> that this problem can be successfully attacked by developing new methods of fertility regulation, and implementing programs of voluntary family planning widely and rapidly throughout the world.[1]

In order to insure the success of these programs, it is deemed essential by the panel of scientists who wrote the study that there be an awareness on the part of people in both the industrialized and developing world that voluntary planning and control of family size can and will provide better opportunities for all children and greater happiness for their parents.

The section on World Population Problems might be of particular use in the classroom as it deals, in general, with international trends on a chronological basis and, more specifically, with rates of population growth in various countries. The attempt seems to be to convey a more thorough understanding of what underlies the respective birth and death rates in various areas, rather than just list or contrast these numerical differences.

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[1] National Academy of Sciences. Committee on Science and Public Policy. The Growth of World Population. Washington, D.C.: National Academy of Sciences, 1963. p. 1.

This study is, in general, clearly written and concise; it might be used in its present form in the classroom--or, it could provide the teacher with a basic outline for a simple unit on the major aspects of population. It does not, unfortunately, give suggestions of related topics which might be appropriate for further study, although it quite often alludes to such topics in the text of the monograph.

Rosset, Edward. Aging Process of Population. New York:
The Macmillan Company, 1964. 492pp.

A scientific treatment of population aging (i.e. the quantitative and qualitative transformations occurring in the structure of modern societies), this study focuses on the generally increasing proportion of the aged in society. This phenomenon is largely due to the improvement and availability of medical care in recent years. The role which medicine has played in reducing mortality rates has often been underestimated, according to Mr. Rosset. While it is true, in his opinion, that other purely economic factors such as increase of food supplies and greater ease of distribution have contributed to the totality of changes which have increasingly improved living standards within this century, it is to the medical advances that the greatest responsibility for decreased mortality is due.

The author compares longevity rates in different countries--both developed and underdeveloped--and explores the conditions experienced by the old age population of these nations.

The study includes many and detailed scales of demographic age, population censuses, population models, life tables, graphs, charts, etc., and presents relevant scientific data on the aging process and on medical contributions to society in general.

Thomlinson, Ralph. Population Dynamics: Causes and Consequences of World Demographic Change. New York: Random House, 1965. 543pp.

An extensive and exhaustive text book approach to the study of population, this work provides a study-in-depth, complete with tables, maps, illustrations, examples, and analysis, of the manifold problems connected to our rapidly growing world population. The author presents reasons for concern, evidence provided by those pessimists and optimists who are already deeply concerned about the problem population forecasts, historical background of the present situation, and a survey of national and international policies directed to solution of the problem.

Although the author does attempt to lighten the tone of his thesis by inclusion of some vignettes (such as the 'sick-joke,' 'Drive dangerously--avoid overpopulation'; or the quote from a letter written by a pauper to the London Times in 1854; 'May we beg and beseach your proteckshion and power. We are, Sur, as it may be, livin in a wilderness, so far as the rest of London knows anything of us, or as the rich and great people care about. . . . Praeye Sir, com and see us, for we are livin like Piggs, and it ain't faire we should be so ill treated.'), the major tone of the work is somber as well as academic.

There is, however, an excellent index of names as well as one of subjects, a well-chosen Recommended Readings Section, and much supporting illustrative material to accompany the text. It is divided into the following sections: The Study of Population; World Population History: Data Sources and Formal Analysis; Population Theories; The Rise and Decline of Mortality, Family Planning, Internal Migration, International Migration, City and Metropolitan Growth; Resources and Food; Industrialization and Level of Living; Politics and Power; Ideals and Preferences; National Policies and World Population by Regions.

As it is directed to a rather advanced level student, the teacher might do well to extract specific material for classroom use, rather than attempt to use the book as it now appears on the secondary level. It is long and somewhat dry, but it is an excellent reference book for the teacher's use as it includes, in one volume, either complete coverage or reference to nearly every major aspect of population change which could conceivably be of interest in development of a population teaching unit for secondary social studies.

SECTION I THEME #5: There Are Certain Problems Which Accompany Rapid Population Growth

Commentary: When rapid population growth occurs, it does not do so in a vacuum; but rather, it involves each individual member of a society, as well as the environment in its totality. It is relatively easy to understand how a family is affected if it has 10 children to support on an income of $20 per month; it is perhaps less easy to understand, but not less important to grasp the concept that the absolute number of people in a society affects everyone. There is significant current research on the effects of crowding and noise on the psyche; likewise, there is much concern over the depletion of natural resources and the general deterioration of our environment. In fact, the problem of rapid population growth is often equated with the poverty and misery brought about by the combination of too many people and too few resources in some areas.

Thomas Malthus, not the most modern but certainly one of the most pessimistic of scholars concerned with the subject of population, stated over 170 years ago that, although the earth has great power to produce subsistence for man, it does not have nearly the power to withstand the pressure man puts on this power. Problems of various types are envisioned if mankind does not cut his rapidly growing numbers. Some of the most often mentioned ones are: hunger, disease, starvation, overcrowding, increased mental disorders, more noise and pollution, less coal, natural gas and water, precious metals and open spaces--and the list goes on.

Many persons individually today, and nearly all national governments are questioning the historical assumption that a large population, and a high rate of population growth are to be equated with prosperity and strength. The economic and social aspects of the population situation seem to indicate otherwise to increasing numbers of people of all religions and of all cultural backgrounds. Concern over the population problem is widespread, and today an increasing number of nations are exploring and implementing policies to reduce their birth rates.

Suggested Activities:

1. Ask students to formulate generalizations on their perceptions of the five or six major problems which are likely to accompany rapid population growth. The following paragraph, taken from C. P. Snow's book entitled, The State of Siege, might serve as a thoughtful introduction to this exercise:

    > In many places and for many purposes, including some of the fundamental human purposes, there are already too many people in the world. Within a generation, there will be far too many. Within 2 or 3 generations--unless we show more sense, goodwill and foresight than men have ever shown--there will be tragically too many. So many that the ordinary human hopes will have disappeared.

Disappeared irrevocably, perhaps--or at least for so long that we can't imagine how they will emerge again.[1]

2. Does an individual have more or less of a chance to live a somewhat self-determined existence in a crowded society or in a not so crowded one? Why is this the case? Compare social mobility in a society in which there are 10 applicants for every job with one in which there are only two applicants for each job. These could serve as relevant discussion questions.
3. Stress the study of natural resource depletion by showing on transparencies on the overhead projector several diagrams, graphs, or tables from the book, Population Growth and Land Use, by Colin Clark. These scientific illustrations, which would be quite simple for a teacher to copy onto a transparency, are intended to illustrate various aspects of the treatment our environment receives when there are increasing numbers of people demanding various levels of a living from it. What happens when we actually do run out of essential resources? Will we be able to replace them with technological innovations and/or substitutes?
4. Certain regions, countries, or peoples could be selected for research reports, which would be presented in oral form to the whole class. The reports would center around

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[1] C. P. Snow, The State of Siege (New York: Charles Scribner's Sons, 1968), p. 15.

an investigation of how the daily life of the specific region, country, or people would be different if there were fewer people, or if there were more people. Would fewer people be a disadvantage, as there would be fewer persons among whom to divide the work? Would there really be more food produced? Would individual life be better?

Relevant Project Materials (*note: brief review follows)

1. Film: Beyond Conception (35 minutes, color, 1968), Distributor: Population Dynamics, 3829 Aurora Ave., N., Seattle, Washington 98103.
2. Film: The Crowd (20 minutes, B&W, 1970), Distributor: Learning Corp. of America, 711 Fifth Ave., New York, N.Y. 10022.
3. Film: Pandora's Easy Open Pop Top Box (18 minutes, color, 1967), Distributor: Nat's Audio-Visual Center, General Services Admin., Washington, D.C. 20409.
4. Film: Urban Sprawl vs. Planned Growth (22 minutes, color, 1968), Distributor: Stuart Finley, Inc., 3428 Mansfield Rd., Falls Church, Virginia 22041.

Specific Readings

List and description of relevant readings follows.

Film Review

1. Beyond Conception

   Emphasis of entire film is on the causes and consequences of the population explosion. Environmental deterioration, food production, and social pressures are touched upon as problems impossible to solve without curbing population growth.

2. The Crowd.

   A visual study (no narration) of man and the extent to which crowds make up a significant part of his life. Crowds are portrayed in parade, dance hall, cathedral, bullfight, race track, and riots. Concludes with look of chromosomes (the ultimate human crowd?) under a microscope by a lone scientist.

3. Pandora's Easy Open Pop Top Box

   A comparison between the problems of city life and the quietness of the country setting--flashbacks between the two environments throughout. Emphasizes out-migration from farmlands. No narration.

4. Urban Sprawl vs. Planned Growth

   Shows haphazard patterns of urban growth and then discusses planning done in Brandywine Creek, Pennsylvania. Major theme is value of understanding the environment before changing it in any way.

Clark, Colin. Population Growth and Land Use. London: Macmillan & Co., Ltd., 1967. 389pp.

This study is a scientific survey of information relating to population growth and its consequences; it has been assembled from the diverse fields which the author claims are relevant to the extremely broad topic of population growth. The topics he examines are biology, medicine, mathematics, archaeology, history, nutrition, agriculture, geography, sociology, politics, economics, and town planning.

Though perhaps somewhat too technical for general use by a secondary social studies class, the study does contain excellent tables, graphs, maps, and diagrams, which could be used to illustrate specific subjects. Some of the graphs are clear, concise, and easily comprehensible; for example, those concerned with rates of population increase by province in specified countries, world population projections, net reproduction and death rates in certain areas, etc., are particularly useful and comprehensible. The possible use of these charts in the classroom is clear. However, and perhaps of more interest, though of an admittedly more limited use, are the more sophisticated and almost esoteric graphs which demand a relatively high level of mathematical and statistical skill for clear interpretation. The graphs and tables--of which there are at least 30 represented in the study--could be utilized as a subject of study by some of the mathematically more able students in the class who might enjoy being able to interpret the material to the rest of the class.

Hasan, Khwaji Arif. The Cultural Frontier of Health in Village India. Bombay: Manaktalas and Sons Private, Ltd., 1967. 220pp.

Although addressing a topic somewhat specialized for inclusion in an overall survey of world population problems, this book is of value because it concerns not only village India in particular but also the larger matter of population increase due to improved and more widely distributed medical care. The study also deals with the collaboration between health workers, social scientists, and would-be patients which produce effective medical care. The study, in addition, reports how village people cope with their health problems and attempts to explain why they do what they do.

Of particular interest to teacher and student alike would be the chapter entitled 'Methods of Study' which relates why the author decided to study the village which he finally did study, and how he organized his study, once the topic was chosen. The chapter outlines the criteria used for selection of the village, listing and description of techniques employed in data collection, sampling, and problems of interviewing. The techniques employed in data collection (observation, interviews, questionnaires, genealogical methods, biographical methods, projective techniques, sociometric procedures, attitude scales and use of available records) are all clearly explained and could be used as general guidelines in study of another community--either with regard to its health history or to some other aspect of population increase or decrease.

Richards, Audrey I. Hunger and Work in a Savage Tribe. Glencoe, Illinois: The Free Press, 1948. 214pp.

A functional study of nutrition among the Southern Bantu, this social anthropological study includes chapters on the History of Nutrition; Human Relationships; Nutritive Needs, and on Food as a Symbol. The major emphasis of the book is on these aspects of nutrition as they were observed among the Bantu; but, the author draws broader theoretical conclusions about the implications of hunger in other societies as well.

Professor Branislav Malinowski writes in the preface to the work that:

> No student of human society can overlook an analysis which considerably enlarges and deepens our conception of early human organization, especially in its economic aspect . . . the attitude to food, table manners, customs of common eating--the morals of food, as we might call it, the things permitted, forbidden, and enjoined--all form a complex and developed ideology of food. To the savage and to the civilized man alike there is nothing more important than what he eats and how he eats.[1]

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[1] Audrey I. Richards, Hunger and Work in a Savage Tribe (Glencoe, Illinois: The Free Press, 1948), pp. X-XV.

The study is a thorough and careful one, based upon the author's year-long residence among the Bantu tribes which she describes. Authenticity is lent to her observations by the fact that she actually was able to observe first hand, as well as communicate within their language, the people about whom she was attempting to draw conclusions. She reports:

> In most savage tribes starvation is a constant possibility, if not an actual menace. The food quest is the chief occupation of every active member of the community, and their most important institutions are concerned with the ownership and distribution of supplies.[1]

Chapter III, entitled 'Food and Family Sentiment in Bantu Society,' might be of particular value in the classroom as it contains material on early childhood, later childhood, and adolescent positions in the total food gathering and consumption picture. Any complete study on population sooner or later has to deal with the problem of sufficient food resources to feed an ever growing population; this study, although somewhat specialized for general secondary social studies use, does draw many conclusions about the importance of food and related activities to one isolated tribe; but the implications, of course, are much broader.

Snow, C. P. The State of Siege. New York: Charles Scribner's Sons, 1968. 263pp.

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[1] Audrey I. Richards, Hunger and Work in a Savage Tribe (Glencoe, Illinois: The Free Press, 1948), p. 14.

Written after an extended world tour, this study is in response to the concern Mr. Snow felt on the part of friends and acquaintances around the world that there was great cause for concern about our world and what was happening to it. This concern--he refers to it as uneasiness--is seen as being more widespread and generally held than at former times, though not as intense in nature as the concern felt during specific short periods, such as war periods.

He decides that there simply cannot be one single and unique cause for this general condition. He says, "All we are inclined to do, according to our temperaments and our particular society, is pluck out from a whole complex of causes one which strikes our fancy."[1] The author himself has picked out one such element, and that element is overpopulation. He argues the same case which many others have argued, although he does so with an uncommon elegance and style. For example,

> In many places and for many purposes, including some of the fundamental human purposes, there are already too many people in the world. Within a generation, there will be far too many. Within 2 or 3 generations--unless we show more sense, goodwill and foresight than men have ever shown--there will be tragically too many. So many that the ordinary human hopes will have disappeared. Disappeared irrevocably, perhaps--or at least for so long that we can't imagine how they will emerge again.[2]

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[1] C. P. Snow, The State of Siege (New York: Charles Scribner's Sons, 1968), p. 13.

[2] *Ibid.*, p. 15.

He presents us with three models--increasingly pessimistic, when one considers that the one semi-optimistic model is an extremely unlikely pattern for action. All models include recognition of the implications of the population curve with the food supply curve; they also include keeping before the world its long term fate. Several moral and political solutions are recommended--essentially the idea is recognition of overpopulation as the major problem. Mr. Snow claims that when we finally do recognize this fact, we can better take strides to correct it.

This book gives a fascinating and very well written presentation of the population problem. I would imagine that secondary students would greatly enjoy reading it.

SECTION I THEME #6: Population and Pollution

Commentary: Although pollution is an important side product of an ever increasing population, only in the more industrialized areas is it this aspect of the population problem which receives most news coverage today, and which is, therefore, probably already a somewhat familiar topic to students. The pressures of urbanization and the resulting threat to the quality of life are direct results of the press of population; the more industrialized nations do not yet have to face problems of how to feed and clothe their people, but the effects of pollution upon people and upon the environment are perhaps even more lethal in the long run.

Some experts maintain that pollution, due to too many people using too many resources, will be our ultimate undoing if we do not set about immediately to curb our population. Dr. Paul Ehrlich, a biologist and one of the most vociferous spokesmen of the Prophets-of-Doom School dramatically states:

> The end of the ocean came late in the summer of 1979, and it came even more rapidly than the biologists had expected. There had been signs for more than a decade, commencing with the discovery in 1969 that DDT slows down photosynthesis in marine plant life--Air pollution continued to be the most obvious manifestation of environmental deterioration. . . . Man is not only running out of food, he is also destroying the life support systems of the Spaceship Earth.[1]

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[1] Ehrlich, Paul R., "Eco-catastrophe," in Anderson, Paul K., Omega: Murder of the Ecosystem and Suicide of Man. Dubuque, Iowa: Brown & Co., 1971, p. 1.

Dr. Ehrlich, and many other experts, predict that we shall overburden the carrying capacity of the planet unless we cut population growth on an international and all inclusive scale. Population planning is the immediate responsibility of both the have and have not nations--the poorer nations because they cannot support even their present levels of population and the have nations because they are creating unacceptable levels of pollution.

Suggested Activities:

1. Opener: What types of pollution can students name?

   Development: The class should be divided into five or so research groups to investigate further aspects and implications of one type of pollution. Possible group divisions might be: water pollution, air pollution, open space disappearance, garbage dump proliferation, and noise pollution. Class reports, possibly in the form of a panel presentation, could be made to the entire class to share the findings of each group.
2. Have students consider the following statement by Mr. Shankarnarayan, former Indian Ambassador to the U.N., in response to a speech by President John F. Kennedy to the United Nations concerning a birth control clause addition to foreign aid programs:

   > The average American family dog is fed more animal protein per week than the average Indian gets in a month. . . . How do you justify taking fish from protein-starved

Peruvians and feeding them to your animals? I contend that the birth of an American baby is a greater disaster for the world than that of 25 Indian babies.[1]

Key questions which might be asked by the teacher to stimulate discussion of the statement are: "Do poor nations, who cannot even feed their own people, have the right to give advice to richer, industrialized nations concerning population growth?" "Will technology develop ways to combat pollution?" "Is pollution really a necessary side effect of large, industrialized societies?" "If people demand a standard of living which creates a high level of pollution, who is to say they are wrong? After all, many of the richest, most industrialized and, therefore, heaviest polluting societies are democracies." "What do we do about less developed nations which are willing to accept a higher pollution level if it means more rapid industrialization and, they think, instant riches? What do we tell them?"

3. Assume, for the purposes of discussion, that the following concept is true: the world can be equated to a common pasture in which each herdsman increases his herd, for personal gain, until the pasture is ruined for all. (Note: this concept is taken from the article "The Tragedy

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[1] Paul R. Ehrlich, "Eco-catastrophe!" in Paul K. Anderson, Omega: Murder of the Ecosystem and Suicide of Man. Dubuque, Iowa: Brown & Co., 1971. p. 403.

of the Commons" by Garret Hardin). If it is true that overuse and an unacceptable pollution level will eventually ruin the environment beyond repair, what steps may be taken to avert this disaster? Do we have the right to restrict the freedom to breed--either abroad through withdrawal of foreign aid to countries whose birth rate continues to be unacceptably high, or in our own society, which prides itself on being a democracy?

Students might consider the above questions to arrive at an understanding of the difficulties of achieving a workable solution to this complex problem.

Relevant Project Material (*Note: brief review of films follows)

1. Film: One Dimension, Two Dimension, Three Dimension, Four . . . (15 minutes, color, 1967), Distributor: Modern Talking Pictures, 2323 New Hyde Park Rd., New Hyde Park, N.Y. 11040.
2. Film: The Population Problem (60 minutes, B&W, 1966), Distributor: Indiana University, Audio-Visual Center, Bloomington, Indiana 47401.
3. Film: To Each a Rightful Share (30 minutes, B&W, 1961), Distributor: Contemporary Films/McGraw Hill, 330 W. 42nd St., New York, N.Y. 10036.
4. Film: Tomorrow's Children (17 minutes, color, 1971), Distributor: Perennial Education, 1825 Willow Rd., Northfield, Illinois 60093.

Specific Readings

A list and description of relevant readings follows.

Film Review

1. One Dimension, Two Dimension, Three Dimension, Four . . .
   Portrays the development of urban centers in the United States and traces the problems confronted daily as these centers grow out of control. Points to some cities which have begun major planning programs to alleviate future pressure. Alternative plans for future U.S. urban growth are presented but, in so doing, a message of "accommodation" may be interpreted.
2. The Population Problem
   Focuses on societal problems of congestion, commuting, inner-city life, migration to the suburbs, loss of fertile land. Explores these plus problems of poverty, inadequate recreational and educational facilities as they are affected by population growth. Points directly to the need for the U.S. to respond to its own population pressure.
3. To Each a Rightful Share
   Contrasts the "have" and "have-not" nations in the battle for strategic resources. Western man (white man) is shown to have been extremely wasteful in his use of precious

resources, in his attempt to industrialize, urbanize, and maintain supremacy.

4. Tomorrow's Children

A strong but accurate indictment of man's refusal to follow nature's laws of balance. At the same time, it is a statement of man's potential for responding to the physical and psychological needs of our future children through control of both our consumption and reproductive patterns.

Anderson, Paul K. Omega: Murder of the Ecosystem and Suicide of Man. Dubuque, Iowa: William C. Brown Company Publishers, 1971 447pp.

A double-columned, profusely illustrated textbook type anthology which explores the complexities behind the introductory statement that the earth is finite and that its capacity to support our species or any other species is limited, this book justly deserves its reputation as one of the outstanding recent works in the population field. Mr. Anderson maintains that we are all inevitably part of an uncontrolled and non-replicable experiment to determine how large our population can become and how far the ability of a planetary support system can be extended to accommodate this population.

The tenor of pessimism runs throughout the articles selected for inclusion in this volume. The dichotomy between rapid technological response to major revolutions and the corresponding slow cultural adjustment to such revolutions is contrasted and presented as the essential message of the anthology.

The contributions fall into ten categories, of which the following are of particular interest to a general study of population: Quantity and Quality of Man; Prospects for the Future: Population; Riders of the Apocalypse; and The Ecological Niche: Man and Ecosystem. These selections are short, generally around five to ten pages each; there are many which would make extremely relevant, interesting, and comprehensible reading for secondary students. The range of articles, also, is great--theoretical and polemical presentations as well as scientific and literary ones are included. This is an excellent book in all respects and one which could be used in the classroom as is, with no interpretation by the teacher being required.

Segerberg, Osborn. Where Have All the Flowers, Fishes, Birds, Trees, Water, and Air Gone? New York: David McKay Co., Inc., 1971.

This book is divided into two sections: 1) The System--which is a description of the findings of ecology in the 20th century, and 2) Beating the System--which explores the ways in which ecology, called by the author the one true revolution, combines the fervor of a new philosophy or religion with the cold force of science.

Section I gives a rather standard analysis of the environmental situation, concentrating on the inter-relationships of various elements of nature rather than on a historical approach of how and why we have arrived at the point where we now find ourselves. Most interesting in this section are the insights into various aspects of these inter-relationships. For example, Mr. Segerberg finds that:

> The Federal Government in 1970 discovered it had 84 different agencies that dealt with environment, many of them, naturally, working at cross purposes. While the Agriculture Department in 1969 paid farmers three

> and a half billion dollars to refrain from production, the Interior Department's Bureau of Reclamation spent 85 million dollars for irrigation projects to bring arid lands of the west into production.[1]

In this section are cogently questioned the ecologists' contentions that we are engaging in numerous practices which are harmful, or possibly harmful, to man. The author's conclusion on these contentions is the following:

> The ecological indictment was vindicated in surprisingly short order. Public opinion was shocked into accepting the validity of ecological contentions by the string of concussions from Torrey Canyon's sinking, Lake Erie, Santa Barbara, seizure of DDT contaminated salmon in Lake Michigan, the Everglades, smog in the eyes, jet noise in the ears, traffic jams in the news. For some strange reason, the system was running amuck.[2]

The author's final thoughts on the subject are surprisingly optimistic. He indicates definite measures which can be taken to enable us to, in his words, 'beat the system.' His key solution can be summed up in one word--'control.' For, as Mr. Segerberg reasons, "the world could not support even its present 3 1/2 billions if all nations possessed western technology and used it with the same lack of controls as we of the west now do."[3] The hope is held forth that if we heed the warnings of the scientists and follow the directives of the ecologists, that extrication from this human predicament appears at least possible because of the intelligence for which man has been historically known--i.e. the intelligence to conceptualize contingent futures.

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[1] Segerberg, Osborn. Where Have All the Flowers, Fishes, Birds, Trees, Water, and Air Gone? (New York: David McKay Co., Inc., 1971), p. 134.

[2] Ibid., p. 137.

[3] Ibid., p. 268.

Mr. Segerberg's book is by no means as pessimistic as his choice of title would suggest. He raises relevant questions and attempts to outline answers to these questions; he attempts to form directives for action as well. His discussion of the biological dangers of overpopulation and of why all organisms need a certain amount of space to survive is fascinating and could form the nucleus of a class discussion; perhaps the pages of his summary (pages 19-24) could be run off and distributed to the class as a discussion introduction.

Osborn, Henry Fairfield. Preservation of the Wild Animals of North America. Privately Published, 1901.

Although only indirectly related to the study of population, this monograph does attempt to explore the relationship between the constantly increasing number of people and the simultaneously decreasing number of wild animals, particularly in North America, but with numerous examples from elsewhere in the world. The author, a great naturalist, was able to foresee at the turn of the century many unfortunate trends of the population/environment situation which have become reality today. Following is a quotation which might be used as an introduction to a secondary unit on a historical study of population, one which, this reviewer thinks, well evokes the tragedy of ruined land:

> I am convinced that the country lying between Arabia and Mesopotamia, which was formerly densely populated, full of beautiful cities and heavily wooded, has been transformed less by the action of political causes than by the unrestricted browsing of sheep and goats. . . . Even if the trade routes were completely restored . . . the population could not be restored nor the civilization, because there is nothing in this country for people to live upon. . . . The same is true of North Africa, once the grainary of the Roman Empire; in Greece today, the goats are now destroying the last vestiges of the forests.[1]

Still, Henry. Man: The Next 30 Years. New York: Hawthorne Books, Inc., 1968. 204pp.

Mr. Still takes a candid look at the post World War II Brave New World of chrome and plastic wonders and attempts to predict some of the methods man might use in the future to lead to a better way of life. His attempt is on the modest side--i.e., he does not pretend, as do some authorities on the subject of population, to have powers of insight beyond what any scholar or interested researcher in the field might be expected to gain. He has studied the world of 30 years ago, when there were "few freeways, no jet airplanes, televisions, or automatic dishwashers; a time when the transistor had not yet been invented and a radio was still something of a luxury, not a growth appended permanently to a teen-ager's ear. The guitar was a musical instrument from which the rare Segovia could draw celestial sounds, not an electronic absurdity designed to destroy the ear with the monotony of a pneumatic drill. . . . Nylon stockings were a luxury only beginning to replace silk, and the entire world of plastics remained an esoteric scientific possibility--in the 1930's, sulfa drugs were just emerging from the laboratory, and the magnificant healing family of antibiotics, beginning with penicillin, would appear just in time to save thousands of lives during World War II. . . ." From all these observations, Mr. Still confidently makes a very simple but very relevant conclusion:--of one thing we may be certain--thirty years from now there will be many people on earth!

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[1] Henry Fairfield Osborn, Preservation of the Wild Animals of North America (Privately published, 1901), pp. 15-16.

However, realizing that nothing is simple, even if it seems so at first glance, the author tempers his statement by adding that there will be many people if, and, of course, only if, we manage to avoid a thermonuclear war.

The book is written for the layman, and could be used to good advantage on the secondary level. The author has taken factual information and reinterpreted it for general consumption. For example, he reports:

> Time and again we have been told that the world's population is 3.2 billion and the number will double to 6.4 by the end of the century. In a world grown accustomed to millions and billions, the figures become meaningless. It is impossible to imagine, as we go about our daily chores of feeding a family and fighting the freeway that in thirty

> to thirty-five years there will be twice as many people for every home in the world, twice as many automobiles fuming through double size traffic jams. It is equally impossible for a Hindu farmer, staring blankly at his plot of land while his children whimper in the last stage of starvation, to imagine a day when twice as many children will be starving.[1]

The author studies population from the point of view of general problems such as food and energy supply, and life expectancy, and from the point of view of specific countries as well.

He plays what he calls 'The Game of Prediction,' in which he lists the guesses of many experts and tries to see some of the things which may come to our world of tomorrow. For example, in 1970-80: Economic desalting of sea water, use of teaching machines, ten-man orbital space stations, automated language translations; and, in 1980-90, the following: reliable weather forecasts, use of non-narcotic drugs to produce specific changes in human personality, establishment of permanent moon base; and, finally, in 1990-2000, controlled thermonuclear power, educated computers, automatic single tax deduction by computer, commercial generation of synthetic protein for food, etc.

This technique of 'guessing' could be extended to use in the classroom. Perhaps the students could add their guesses about future developments to those of the experts.

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[1] Henry Still, Man: The Next 30 Years (New York: Hawthorne Books, Inc., 1968), p. 36.

SECTION I THEME #7: Elements of the Population Debate

Commentary: Almost all of the problems associated with the problem of a rapidly growing world population have been identified and discussed at length by the several schools of thought engaged in the population debate; each of the major participants in the debate has its own set of understandings about the present population growth rate and the rate which is projected for the future. There is the widespread belief, if not by any means a concensus, that there are already too many people and that the rate of population increase continues to be too high.

Although there is this divergence of opinion about the implications of population growth, there are some facts connected with the growth about which there is fairly close agreement. In his book entitled Expanding Population in a Shrinking World, Marston Bates reports:

> The experts are in close agreement about the figures; somewhere between 80 and 100 individuals are added to the total world population every minute. On the average, about 270,000 babies are born every day, and about 142,000 people die--resulting in a gain of about 128,000. This is equivalent to the population of a small city. It adds up to a total of something like 48 million additional humans every year.[1]

There are many issues connected to this rapid population growth; likewise, there are many problems raised by it.

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[1] Marston Bates, Expanding Population in a Shrinking World (New York: American Library Association, 1963), p. 1.

It is suggested that the students master at least the essential elements of the present population situation (i.e., actual number of people on the earth, number of years it took the population to reach that level, general distribution patterns, future growth rate, expectations in Asia, Latin America, the U.S., Europe) before they set about to isolate various schools of thought on recommendations concerning this problem.

Suggested Activities:

*Note: These activities might best be undertaken in conjunction with themes one and two of Section II (Pessimistic Forecasts of World Overpopulation problems, and Optimistic Forecasts of World Population in the Future). In such a case, these activities could serve as an introduction to the fact that there is considerable controversy among experts in many fields over what steps to take in connection with any present or future population policies.

1. Just who are the people interested in population matters? Ask students to try to imagine what possible interests these following groups might have in population: biologists, ecologists, religious leaders, housing developers and contractors, political leaders, minority group leaders, etc.
2. The following questions (paraphrased from the Teacher's Guide to the New York Times Supplement, April 30, 1972,

entitled "Population: The U.S. Problems, The World Crisis,"), might serve to stimulate interest in and discussion of certain elements of the population debate:

Questions	Answers
A. What are some arguments for and against abortion?	A. The rights of a woman to control her body vs. the right of the unborn to life.
B. Why do some consider that growth among whites in absolute numbers is more serious than among blacks?	B. White middle class families account for the bulk of the U.S. population. Consequently, high growth rates among the white population means relatively and absolutely more people.
C. According to the following statement by Robert McNamara, what burden does population put on the developing nations: "Most population growth occurs in countries already plagued by poverty, malnutrition, illiteracy, unemployment, and political turbulence. Some 25 countries have population policies and the World Bank must support their efforts. Even with the 2-child family, stabilization won't come for a long time."	C. Most economic gains are wiped out immediately just taking care of necessities of the added population.
D. Family Planning can count China as one of its greatest successes to date: why is continued success in family planning so important to China's future?	D. China, already boasting the world's largest population, is attempting massive modernization and would be hampered in this attempt by rapid population growth.

E. The Latin American population growth rate is significantly higher than the American; but, in what way is the birth of an American baby an even greater threat to the global environment than the birth of a Latin American baby?	E. The American baby can be expected to consume significantly more resources and create more pollution.

3. What is ZPG, or Zero Population Growth? Distribute to the class a ditto handout of reading selections from Frank Notestein's study, Zero Population Growth; this study is a particularly useful one as it includes not only a description by Mr. Notestein of the ZPG Movement, but also comments on the movement by three other experts. Extra Credit might be offered for bringing in reviews of recent magazine articles on the ZPG movement (models for these reviews can be seen in Chapter 2). Students should be directed to the Readers Guide as a quick and efficient source listing of such articles. Also, a number of visual materials (slides and graphics) are available from Zero Population Growth, Sacramento Chapter. Detailed information on these visual aids is available in 'Population Education--Let's Do It!' Vol. I--School Setting, by Theodore Wooster. ZPG, Box 19252, Sacramento, California 95819.

Relevant Project Material

1. Film: Population Explosion, The (15 minutes, color cartoon, 1968), Distributor: Contemporary Films/McGraw-Hill, 330 W. 42nd St., New York, New York 10036.

Through stick cartoons, portrays various ways through which man historically maintained population equilibrium. As population has grown to present, the only answer now is economic and technical aid passed from the rich countries to the poor countries.

2. Film: Too Many People (6 minutes, color, 1971), Distributor: Cross Films, P.O. Box 5409, Milwaukee, Wisconsin 53211.

   A short collection of images linking human reproduction with environmental degradation. Paul Ehrlich narrates to give some scientific information about biological system breakdown.

Specific Readings

A list and description of relevant readings follows.

Hugh Moore Fund. The Population Bomb. New York: Hugh Moore Fund, 1965. 24pp.

This monograph has been compiled by a group of business, labor and professional men concerned with the ever increasing population rate. Their particular stated concern is to preserve world peace, arrest communism, and improve the lot of people in over-populated countries. Although the work is polemical in intent as well as content, it is worthy of note chiefly because it is a product of the Hugh Moore Fund, which, along with author Paul Ehrlich, has helped familiarize the reading public with the terms 'Population Explosion' and 'Population Bomb.'

The monograph includes several dozen sayings by prominent Americans, all of them directed to the idea that there simply are too many people in the world. These sayings might be good in initiating a lively class discussion on a topic such as 'Is our civilization really being threatened?'

The material presented is pared to its minimal complexity--whether to increase its impact or to eliminate misunderstanding is not made clear; but the result is a very hard hitting and pessimistic study, albeit an over simplified one.

Hutchinson, Edward Prince. The Population Debate. Boston: Houghton Mifflin Company, 1967. 263pp.

This study is a historical survey of the development of conflicting theories of population up to the beginning of the 20th century. The author's implied purpose is to better acquaint present scholars of demography (whom, he maintains, are perhaps obsessed with observation and empirical data) with past information in the field.

The author traces two lines of development: the chronological--in which he surveys dominant population theories in England, France, Sweden, and America during the 17th and 18th and 19th centuries--and the topical--in which he discusses pre-Malthusian theory, post Malthusian theory, production theory, and pessimistic doctrine. Each of these elements is given a very thorough look. Professor Hutchinson is a careful scholar and, in addition, a writer with a style which is informative and easy to read. He has surveyed the whole body of knowledge and reviewed the body of theory and speculation which has tended to polarize at the two following extremes: on the one hand, scholars maintain that large and growing populations are the only bases for national strength; and, equally vociferous at the other extreme is the group of scholars who maintain that a burgeoning population has a negative effect and causes a general worsening of social and economic conditions under which people are forced to live.

Mr. Hutchinson has included quotations from historical sources, where relevant, along with contemporary statements. He has, for example, quoted the following from Raleigh's "Discourse of War in General," published in 1650:

> . . . the very progression of our kind hath with it a strong incentive even of those daily wars which afflict the whole earth . . . the want of room upon the earth, which pincheth the whole nation, begets the remediless war. . . .[1]

Students might enjoy being presented with such a statement and being asked to compare it with attitudes of their own day. It might be pointed out that, other than the language, of course, the opinion expressed in the above quote is similar to much contemporary opinion.

Notestein, Frank W. Zero Population Growth (with comments by Philip Hauser, Judith Blake and Paul Demery). Population Index, Vol. 36, #4, 1970. pp. 444-465.

This study is the revised text of Mr. Notestein's paper which was originally presented at the annual meeting of the Population Association of America at Atlanta, April 17, 1970, with comments by three eminent discussants at the conference. Mr. Notestein explores all facets of the concept of Zero Population Growth, which, he claims, has caught the public by storm. Maintaining that, on the one hand, ZPG is inevitable, he says:

> Anyone who knows how to use a table of logarithms must be aware that in the long run the average rate of population growth will approach zero as a limit.

He explores the different avenues of action which might be taken by the technologically more developed and less developed countries due to the differences in the severity of the problem as well as the differences in the availability of means for their solution. Mr. Notestein's conclusion is the following:

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[1] Edward Prince Hutchinson, The Population Debate (Boston: Houghton Mifflin Company, 1967), p. 34.

> The countries that could apply drastic constraints to human fertility do not need to; the countries that need drastic constraints cannot apply them; and in any case, the path of voluntarism through family planning is likely to be both more efficient and more civilized.

The comments are useful by means of their content and also by their mere presence. Each of the three commentors points out strengths and weaknesses of the paper. Such critiques could serve as models of additional reviews (for this and other articles and books) by secondary social studies students.

SECTION II THEME #1: Pessimistic Forecasts of World Overpopulation Problems

Commentary: The Prophets-of-Doom School claims that we are heading for catastrophe on every front (overcrowding, over consumption of food, destruction of natural resources, pollution, etc.), if we do not take successful steps immediately to slow population growth on a world wide basis. Many persons individually today, and nearly all national governments are questioning the historical assumption that a large population and a high rate of population growth are to be equated with prosperity and strength. There is a growing number of individuals and organizations convinced that to allow present population growth rates to continue is to ruin our environment beyond repair; they are interested in instructing individuals and national governments on the impossibility of improving the quality of life until the quantity of life upon the planet is brought under control.

Suggested Activities:

1. Panel: Pessimistic Forecasts of world population problems vs. optimistic forecasts--
    - A. Class will be divided into two groups--the optimistic and the pessimistic
    - B. Five students from each side will be designated as Panel Participants.
    - C. Several students will be designated as reporters for each side.

D. The remaining class members will be designated as researchers.

Discussion should be centered on the elements of the population debate (Section I Theme #7) to acquaint in class all students with the broader dimensions of the problem.

2. Have students begin to prepare for their notebook a chart which will eventually contain the following information: factors and issues important in the population debate, position of the pessimists on the issues and position of the optimists on the issues. (Part #3 of the chart will be filled in in connection with Theme #2 Section II: Optimistic forecasts of world population in the future.)

3. Discussion summary and extension: From participating in the panel (or debate), and from summarizing material presented in the debate for their notebook charts, students should have some idea which forecasts on various issues sound to them the most reasonable, the most likely to come to pass. Make a list of conclusions on the blackboard from volunteered student answers--asking volunteers to state why they think the stand of the pessimists or the optimists on a particular issue is the crucial one.

Discussion should now center on how these key issues add up to a general pessimistic stance or an optimistic one on the future of the population situation; students should come to understand that in this issue, as in most complex ones, there is seldom a considered set of black/white attitudes, but rather a large sector which must remain undecided (or grey), as there are so many necessary inputs of information which remain unknown or uncertain.

Specific Reading

A list and description of relevant reading follows.

Jones, Joseph Marion. Does Overpopulation Mean Poverty? Washington, D.C.: Center for International Economic Growth, 1962. p. 64.

This book--and its foreword by Eugene P. Black, formerly head of the World Bank--attempts to present facts about population growth in relation to economic growth, both real and potential.

It is divided into the rather standard divisions of definition of the population explosion, explanation thereof, attitudes of various groups toward the problem and the outlook for future developments in the field. It is valuable chiefly for its emphasis on the economic aspects of the population problem. The author states:

> If birth rates were reduced, all other conditions . . . could be much more easily improved, and this would speed up economic development and increase levels of living. . . . Economic development requires greater investment--in agriculture, industry, in public health, in education--and increased expenditures for public services and more efficient government administration. Increased investment requires greater savings. High birth rates operate to reduce savings.[1]

A presentation of attitudes of world leaders on the subject of population growth is included. Among those leaders whose opinions are represented are the following: John F. Kennedy; M. C. Chagla, (1960 Ambassador of India to the U.S.); Mr. Nehru; various Catholic and Protestant clergymen; Albert Einstein and Arnold Toynbee. Such varied opinions on the population problem are presented by these leaders that it is difficult even to draw together the statements into general schools of thought; the author, however, has attempted to do so. This section could be used on the secondary level in its present form; it could also be expanded by students bringing in additional relevant opinions by other community, national, and international leaders.

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[1] Joseph Marion Jones, Does Overpopulation Mean Poverty? (Washington, D.C.: Center for International Economic Growth, 1962), p. 89.

Keys, Ancel. The Biology of Human Starvation. Minneapolis: The University of Minnesota Press, 1950. Volume II, 700pp.

This is a technical textbook type of study on the various manifestations of starvation--its psychological effects, behavioral effects, as well as descriptions of the various diseases which are either caused by or contributed to by malnutrition and undernutrition. Particularly interesting are the tables of measurement from elaborate experiments conducted by the School of Public Health at the University of Minnesota, in which subjects were studied from a normal state to one of semi-starvation and back again to a normal state through rehabilitation, with provision for recording and discussing of complaints by participants and for medical attention as well. Photographs of the men at each stage of normalcy, semi-starvation and rehabilitation are included. The comparisons between physical appearance in normal and semi-starvation periods are quite striking, and might be reproduced by a teacher for class use to show that starvation gives visible signs of affecting a subject's whole expression, not only his physical structure.

The appendix includes a chapter on "Some Notable Famines in History," with information on the primary causes of famine (crop failure, distribution) as well as a 5-page, 2-column, single-space listing of some of history's more notable famines. Such a listing could be a valuable research tool for a student research paper on famine.

There is a comprehensive discussion of the methodological limitations of experiments on man, and an assessment of the reasons for the scarcity of previously existing work on starvation and semi-starvation. Some of the reasons discussed include: lack of sufficient voluntary subjects, possible inaccuracy of findings from patients already ill from other causes who might indeed be starving, but as a result of a previous disorder, etc.

The author presents ample dramatic evidence of the horrors of starvation as observed by relief workers and travelers through areas of famine. For example, the following report of the 1921-22 famine in the Kazan District of Russia as seen by the American Relief Administration Workers is summarized as follows:

> [In the starving villages] . . . not a living soul could be seen in the streets . . . To find a quarter of even half of the houses closed and boarded up, attesting the flight of their occupants was common. Already the deaths from starvation were so many, that village clerks no

> longer kept records . . . of those who remained alive, nearly all were subsisting on food substitutes, the components of which indicated the degree of their want. The more fortunate mixed grain with chaff or ground weeds and acorns. Others, having no grain, made nauseating, poisonous unctions of weeds, tree bark, and even clay and manure. Such domestic animals as there remained were fast disappearing. They starved and died like their owners, or were killed for food.[1]

Such accounts, gruesome as they are, might be used on the secondary level to indicate to students what happens when the food and resource supply is not adequate to meet the demands of the population, for whatever reason. The book, although technical in nature, is clear in concept and intent, and is provocative in the extreme.

Lader, Lawrence. Breeding Ourselves to Death. New York: Ballantine Books, 1971. 46pp.

As the title of this book clearly indicates, the author takes the view that there is indeed a problem of overpopulation in the world today. This monograph sets forth the record of the struggle by the Hugh Moore Fund to call attention to the flood of people engulfing the earth. The book was intended to serve as an instructional unit to the growing number of individuals and organizations now engaged in the struggle to control what Professor Paul Ehrlich calls in the Foreword to this book, 'The Greatest Menace of our Time.'

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[1] Ancel Keys, The Biology of Human Starvation (Minneapolis: The University of Minnesota Press, 1950), Volume II, p. 691.

Another undeclared, but rather obvious, nonetheless, purpose of the work is propaganda The book presents the case for controlling population; it is documented with relevant newspaper clippings culled from the international press, illustrated with photos and capsule biographies and contributions of leaders in the population control field, and with successful flyers and pamphlets which have been used by various population groups in the past. For example, several posters produced by the Campaign to Check the Population Explosion are reprinted. One of these posters shows a healthy looking American family at supper; under the picture is the caption "While you're eating dinner tonight, 417 people will die from starvation." Techniques such as the above can be quite effective in making the point that not everyone is as well off as those fortunate enough to live in the industrialized west.

The book makes a highly dramatic, non-technical impact. It is clear, obvious in intent, and quite convincing. I think it would make a strong impression upon students and it is a good overview of materials developed by the population control organizations in recent years.

Vogt, William. People: Challenge to Survival. New York: William Sloane Associates, 1960. 234pp.

A personal essay and a personal assay of the population problem, this study discusses the population question predominantly in economic terms. Mr. Vogt states:

> There will be no hope that Taiwan, India, El Salvador, etc., can solve their economic problems without slowing their population increase. Yet we are committed, in one way or another, to participation in their economic progress.[1]

The author maintains that the richer nations, also, are not exempt from this challenge. He asks:

> Do we "rich" North Americans have the right to increase our own population and thus our drain on raw materials at the present or future expense of other peoples? How shall we justify a few hundred millions of dollars in "aid" when we are bleeding the recipients of the stuff they will need for their very existence in 50 years?[2]

This provocative book, though generally pessimistic about the world situation if we do not immediately take steps to decrease world population growth, does give some specific steps which might be taken to improve the outlook. For example, the inclusion of a required birth control clause in our foreign aid programs and in the United National Technical Assistance Programs, and also tax laws to discourage large families.

A compelling book which concludes that the relationship between poverty and overpopulation is a permanent one, this book recommends as a cure for this problem a decrease in the population growth instead of additional technological and agricultural advances which are soon wiped out by rapid population increase.

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[1] William Vogt, People: Challenge to Survival (New York: William Sloane Associates, 1960), p. 80.

[2] Ibid., p. 166.

Weisberg, Barry. Beyond Repair. Boston: Beacon Press, 1971. 189pp.

A pessimistic conclusion is reached by Mr. Weisberg after a thorough, if somewhat one-sided, review of sobering notations by scientists. The author reports:

> From an ecologically sound political viewpoint, it will not do simply to challenge an occasional project or promote yet additional piecemeal legislation. Quantitative change must give way to qualitative transformation before the whole itself is beyond salvage.[1]

Mr. Weisberg is pessimistic about the future, but he does lay down some conditions of liberation which may allow us to find our way out of the present crisis. Put in the popular idiom, the author says that 'We have met the enemy and he is us!' He recognizes that increasing numbers of people may certainly mean increasing levels of consumption for the near future. But, he asserts, if we understand that one of the basic conditions of liberation is control of our environment and its resources, if we fundamentally redistribute wealth and resources throughout the globe, we might achieve some sort of a balance. Such balance is seen as more beneficial to mankind as a whole than population control.

About population control, Mr. Weisberg states:

> . . . in the present historical context, such control will serve to further accentuate those forms of authoritarian control and domination which are at the very heart of the struggle for biological balance on this planet.[2]

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[1] Barry Weisberg, Beyond Repair (Boston: Beacon Press, 1971), p. 40.

[2] Ibid., p. 64.

The author's basic supposition--i.e. that the political pestilence of the U.S. is today undoing the work of organic evolution, and that the political and economic inequities of capitalism are today directly responsible for the biological traumas of the earth's natural systems and its population, is not well supported by his evidence. However, his approach is a rather original one and a thoroughly pessimistic one as well, given the likelihood that the American people will, in the near future anyway, take the path which he suggests. He brings together and discusses in a lively way much of the evidence generally used by the prophets-of-doom school, and could be quoted in the classroom when some sort of synthesis of the beliefs of this pessimistic school is needed.

SECTION II THEME #2: Optimistic Forecasts of World Population in the Future

Commentary: Although there is widespread belief, even among optimists, that an ever growing population poses problems for the environment in many different ways, there is the hope and expectation that man will somehow triumph over the situation. Modern technology will find new substitutes for natural resources, as they disappear; space exploration will, eventually, lead to settlement of humans on other planets; the green revolution will help provide enough nourishing food for everyone; and, in any case, more people in any given population group can be said to make that group stronger in many ways.

Suggested Activities:

See Section I Theme #7, Elements of the Population Debate, and Section II Theme #1, Pessimistic Forecasts of World Overpopulation problems.

Specific Readings

A list and description of relevant readings follows.

Carvell, Fred and Tadlock, Max. It's Not Too Late. Beverly Hills: Glencoe Press, 1971. 310pp.

Although the title of this book of readings would suggest an optimistic conclusion to the problems of overpopulation, the tone adopted by most authors is one of caution, if not pessimism. John Hall, Executive Director of the World Resources Inventory, Southern Illinois University, warns:

> Though the growth of population has been accompanied by more intensive cultivation and higher food yields per acre, the amount of presently usable soil per capita is declining, and, in many areas, becomes impoverished through ill use. . . . In the United States alone, urbanization and transportation have been calculated to draw more than a million acres of soil, each year, from cultivation.[1]

And, equally pessimistic, Mr. Saul Pett of the Associated Press states that:

> America, we suddenly seem to have discovered, is no longer infinite in space or resources, or hope. . . . We have less room to live or work or die. . . . We flee from the cities to the suburbs and from the suburbs to the exurbs and the rat race of numbers is never far behind.[2]

Some authors, such as Frank W. Notestein, President of the Population Council of New York, sees reasons for hope in the crisis, however. He sees in modern technological developments hope that the population crisis may be resolved during the remainder of this century; he claims that the hope lies in the fact that there is now new reason to think that if only the world would be willing to bend its energies toward solving the problem, it could go far in the direction of doing so during the coming decades. Dr. Notestein outlines four specific elements as being of particular importance in solving the population dilemma, about which he claims, "if our efforts are commensurate with our opportunities, we have reason to believe that, by the end of the century, the spectre of poverty perpetuated by population growth can be lifted from the earth."[1] The four specific elements he outlines are as follows:

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[1] Fred Carvell and Max Tadlock, It's Not Too Late (Beverly Hills: Glencoe Press, 1971), p. 47.

[2] Ibid., p. 7.

1. the development of national political policies favoring family planning
2. the demonstrated public interest in limiting childbearing
3. the improvement of contraceptive technology, and
4. the fact that for the first time in history, several oriental populations have begun to cut their birth rates as a result of governmental programs to spread the practice of birth control.

The book consciously includes selections--24 in all--which, while they are not Pollyana like in nature, are predominantly constructive in describing problems or posing solutions. It also contains a number of relevant graphs, charts, and illustrations, which might be reproduced for classroom use on the secondary level.

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[1] Fred Carvell and Max Tadlock, It's Not Too Late (Beverly Hills: Glencoe Press, 1971), p. 195.

Neuhaus, Richard. In Defense of People. New York: The Macmillan Company, 1971. 315pp.

This study suggests that the chief resources available to man are the following: human knowledge and imagination; and further, that these qualities have been suggested by history to be eminently renewable. He finds the argument of the anti-pollution zealots--namely that each new baby is "a greedy little bastard potentially stuffing himself with 26,000,000 tons of water, 10,150 pounds of meat, 28,000 pounds of milk and cream, 9,000 pounds of wheat, and using 21,000 gallons of gasoline"[1] as both blunt and trivial in light of the possibilities at hand for "mobilizing our society and the world against ecological disaster."[2]

Mr. Neuhaus warns in the preface to his book that "nothing in these pages should be misconstrued to suggest that pollution and unlimited population growth are not very real or serious problems"; but he does deal with the dangers in the current response to these problems as well as with the nature of the problems themselves. He judges that at least a part of the ecology, controlled population and controlled pollution movement is political in nature and that it is, in short, a sort of cause to end all causes. He quotes President Nixon as saying "clean air, clean water, open spaces,--this is an essential part of the lift of a driving dream I want to offer the American people. . . . It seems almost unbelievable that the people in the proverbial palace are able to share their anxiety about the crowds at the gate with the crowds at the gate."[1]

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[1] Richard Neuhaus, In Defense of People (New York: The Macmillan Company, 1971), p. 241.

[2] Ibid., p. 109.

The author sees a distinct possibility that the longer the ecology movement is with us, the more discriminating will become the public as to its claims; for example, it should become evident that a genuinely renewed reverence for all living things, including people, is incompatible with the Draconian measures advocated by some population controls (at least, Mr. Neuhaus hopes that it will become generally evident). Though he does refer reverently to naturalists such as John Muir, he concludes that man's future would be remarkable hopeless if one were to write the history of man only "by the benchmark of wilderness in which men's religions, music, philosophy, politics, cities and friendships, as well as his wars, acts of genocide and abiding brutalities, only obscure where we have come from, where we are going, how far we've gone."[2]

Though not written by an eco-enthusiast, this book, written by someone who is deeply concerned about the nature of the environment, is a good and convincing apology for those who would rather try to increase the resources than curtail population growth. In the words of the author: "Given the choice between the coercive and brutal proposals for diminishing the number of guests, on the one hand, and multiplying the bread, on the other, multiplying the bread is infinitely preferable."[1]

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[1] Richard Neuhaus, In Defense of People (New York: The Macmillan Company, 1971), p. 136.

[2] Ibid., p. 139.

Ravenstone, Percy. A Few Doubts as to the Correctness of Some Opinions Generally Entertained on the Subject of Population and Political Economy. New York: Augustus M. Kelley, 1966. 243pp.

Part of the "Reprints of Economic Classics" series, this book is of interest because it is historically important, because it is particularly well written, and because it is a contemporary account of an 1820 attempt to discredit the theories of Malthus. It could be used in the classroom in conjunction with a presentation of the theories of Dr. Malthus. It is interesting to note that the modern introductory note by eminent Columbia University economist Joseph Dorfman, is lengthy, somewhat pompous, and exceedingly dull--much in the unfortunate modern tradition of what has been called "the dismal science." The original introduction (1821), as well as the original work, are imaginative, concise, informative, and not in the least dull.

The author of the original article investigates some of the leading doctrines of the 19th century school--chief among whom was Malthus. Of the Malthusian theory, Ravenstone concludes:

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[1] Richard Neuhaus, In Defense of People (New York: The Macmillan Company, 1971), p. 209.

> It is a cold and dreary system which represents our fellow-creatures as so many rivals and enemies, which makes us believe that their happiness is incompatible with our own, which builds our wealth on their poverty, and teaches that their numbers cannot consist with our comforts and enjoyments; which would persuade us to look on the world in the light of a besieged town, where the death of our neighbors is hailed with secret satisfaction, since it augments the quantity of provisions likely to fall to our own share.[1]

Such prose is somewhat archaic, perhaps; but, nonetheless, it is insightful; also, the statement does present a dramatically different view from that of Dr. Malthus. The article might be used to indicate to students that there have always been dissenting opinions in matters of population and population control. Possibly also of interest to students would be the point by point rebuttal of Malthus' theory, by investigation of the growth of population in Europe, in England, and in the United States. The author discusses subsistence levels, property, taxes, capital, money, and the distribution of property in the various countries; he presents evidence of various population theories in connection with these categories--not only the theory of Malthus. Professor Dorfman had edited the text throughout, and has added some modern notes which help give modern focus to a classic work.

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[1] Percy Ravenstone, A Few Doubts as to the Correctness of Some Opinions Generally Entertained on the Subject of Population and Political Economy (New York: Augustus M. Kelley, 1966), p. 17.

SECTION II THEME #3: Work Being Done to Save Our Environment

Commentary: There are numerous organizations active in the field of population study and/or population control. To gain an understanding of who has done what in the field of population to date, and to evaluate activities undertaken either presently or in the past, a familiarity with the existence of these organizations and their activities is appropriate. Each organization is involved in a slightly different aspect of the population problem; each organization has its own strengths and weaknesses and can boast its own successes and failures.

Suggested Activities:

1. Students should be asked to compile a list of community organizations working on some aspect of environmental protection which is somehow related to population. Some suggestions might be made by the teacher of possible sources of information (many communities have Environmental Councils which serve as clearing houses of this sort of information.)
2. Students should be asked to peruse in class the listing and description in Chapter III of national and international organizations which deal in population matters. They should select one organization as the subject of additional study. The student should contact the organization in which he is interested and request specific

information on programs underway. Class reports should be given on each organization's activities when the material has been received (note: general mailing time is 2 to 4 weeks).

Some students will probably wish to contact an organization which is not listed in chapter III. This individual choice should be encouraged, at the discretion of the teacher, in order to cut down on too much duplication of class reports (except in the case of organizations such as the United Nations or the Population Reference Bureau, whose activities are too widespread to be surveyed by one student).

Specific Readings

A list and description of relevant reading follows.

Berelson, Bernard. Family Planning Programs. New York:
Basic Books, Inc., 1969. 303pp.

An international survey of family planning programs in various nations, this reader was compiled from a series of talks prepared for the Forum Program of the Voice of America. The Dramatic impact is generally high, particularly as many of the authors are citizens of the countries about which they are writing. Some of the chapter titles give evidence of this forceful tone: "India: A Gigantic Task"; (by Dipak Bhatia); "Pakistan: A Large Effort in a Large Nation"; (by Enver Adil); "Jamaica: Crisis on a Small Island"; (by L. L. Williams); and "United States: New Efforts but Still Not Enough"; (by Leslie Corsa).

The emphasis of the volume taken as a whole is in the broad historical perspective of the problems of population growth. Bernard Berelson concludes that, although there are several problems deriving from population factors in the western world, the major problem is that of undue population growth in the developing countries. He claims that the population problem is often thought of as a race between food and people, or between space and people; although he agrees that both factors are involved, he finds that they are by no means the whole program. This volume reports activities around the world which have taken place against a backdrop of mounting population pressure. More and more countries are taking steps to deal with the problem of overpopulation; this book attempts to recount experiences undergone by specific countries in the field of family planning project implementation and project target-setting; the author claims that he hopes in such a way to contribute to the already substantial and constantly growing body of knowledge surrounding population growth and population control.

Particularly well reported are birth rates around the world, specific family planning programs and their successes and short-comings, manufacturing and marketing of specific contraceptives, and differences in attitude toward family planning in various places. The overall value of the book for secondary teaching is its possible use as an international case-studies model approach.

DaVanzo, Julie. A Family Choice Model of U.S. Interregional Migration Based on the Human Capital Approach. (Rand Paper). Santa Monica, California: Rand Corporation, 1972. 57pp.

Concerned with migration patterns in the industrialized world in general, and citing the U.S. as the specific example, this study proposes an analytical framework for studying the migration behavior of individuals and families. A somewhat technical, but well explained econometric model based on this framework is presented; the source for this model is the 1960 U.S. Census of population, particularly the aggregate data on gross migration. The model is original in that, insofar as it is dealing only with migration in developed societies, and especially in the U.S., it considers migration a matter of family choice--usually prompted by economic and other concerns, but still a matter of choice. Special attention is given to the importance of the migration of women and families, as opposed to migration of the single male worker.

Kaplan, Sylvan J., McCormick, Robert T. (eds.). Innovative Organization for Population Research. Springfield, Illinois: Charles C. Thomas, 1971.

This edited volume takes the novel approach of surveying the institutions which are--or might be--involved in the population problem, rather than in reviewing the various fields of population research. Although it reviews the positive steps taken on various fronts in the field of either population control or resource increase, it takes a generally pessimistic view of the success of these steps to date and in the projected future. Mr. Kaplan explains in the introduction that "if the ideas, the suggestions, and the recommendations in this book sometimes seem to point first in one direction then in another, it is due to the fact that the problem itself is complex and unique. Its intricacies are being explored with vigor and dedication, but it is still largely an unmapped area and we can give you only the directions considered most nearly reliable by those most familiar with the terrain."[1]

Some of the institutions mentioned as making particular contributions to the field of population research are the following: Agency for International Development; Batelle Northwest Laboratories; various universities, including particularly California and Michigan; Center for Population Research, U.S. Department of Health; ERIC (The Educational Resources Information Centers System), and The Population Reference Bureau.

A general overview of the institutional framework is given by Douglas Carter in his chapter entitled 'The Challenge: Institution Building':

> Two aspects of institution building strike me as pertinent. First, the Federal Government has increasingly had to be concerned about areas of public life with which it has never before been involved. It has met a need for institutions subsidized by government yet apart from government. Second, our record of institution building in this quasi-governmental area has not been an unqualified success. . . . As we look at the population problem, I am doubtful that any of the earlier models will serve. The population explosion presents a unique challenge and will require a unique institutional arrangement.[2]

This book is an excellent reference book, particularly for the teacher of a unit on population. It could also be used by a student as source material for a special report on present activities being carried on by institutions engaged in population research. I do not think, however, that it constitutes a work which all students must read.

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[1] Kaplan, Sylvan J., McCormick, Robert T. (eds.), Innovative Organization for Population Research (Springfield: Illinois: Charles C. Thomas, 1971), p. XII.

[2] Ibid., pp. 5, 7.

Office of Foreign Study, National Academy of Sciences. Rapid Population Growth. Baltimore: Johns Hopkins Press, 1971. 680pp.

A scholarly and somewhat technical volume, this work was composed by a committee of 12 scholars who were attempting to define and describe the problems resulting from the present unprecedented rate of population increase. Their aim was not only to define these problems, but also to help policy makers understand the implications of these problems.

The work is divided into two sections, one of which is made up of scholarly research papers prepared by specialists in various social sciences: economics, political science, sociology, demography, education, social ethics, and public health. The second section contains a summary overview of the research papers and of recommendations which policy makers might follow. The entire summary and recommendations section could be of use to the secondary teacher; it is 100 pages long, clearly organized, and non-technical in nature, although it has condensed and explained the technical information presented in the research papers.

The specific recommendations made include the following:

(1) Freedom to determine family size

(2) Establishment of national population influencing policies

(3) Clarification by national governments of their shorter growth rate and birth rate goals

(4) Accelerating the trend toward the smaller family

(5) Creation of multi-objective policies which would tend to increase parental interest in small families

(6) Population-Responsive policies

(7) Population policy in the international context

(8) Recognition of the need for further research, both on the national level and on the international level, through the medium of International Research Centers on population problems.

The authors admit that their recommendations are not intended to provide a comprehensive solution to the world's population problems. Perhaps students could be asked to contribute additional recommendations.

The research article by demographer Gavin Jones, entitled "Effect of Population Change on the Attainment of Educational Goals in the Developing Countries" explores the fact that, although there is the almost universally shared idea in developing countries that education must be expanded rapidly, and that although achievements in this domain have been often remarkable, the number of adult illiterates throughout the world has actually increased over the past decades. Present and future trends in this domain are amply illustrated in tables and graphs, as well as in case studies. Gavin's conclusion is that there must be recognition in developing countries that fertility decline will enhance the chances of reaching lofty educational goals and will thereby effect a saving of sorts over the expenditures which would have to be made for the constantly increasing enrollment of students in already overcrowded schools.

Rockefeller, Nelson A. Our Environment Can Be Saved.
Garden City, New York: Doubleday & Co., Inc., 1970. 176pp.

As the title indicates, this book is a positive approach to the question of the environment and its resources. Rockefeller maintains that we can indeed halt our downhill run toward ecological suicide, and that we can even start climbing back up the slope. The impetus for his writing this book is that, although there is considerable public interest today in saving our environment, there are few practical guides towards solutions of actual problems. Governor Rockefeller has addressed himself particularly to questions in the realm of governmental approaches to saving the environment; but the implications of his study are much broader.

Rockefeller makes some interesting comments on the wide appeal of the ecology movement. For example, he says: "It is a beautiful thing, it brings together radicals and members of the John Birch Society. It seems to be a meeting ground. . . . Nobody can seriously come out against a clear environment. Though not specifically dealing with the study of population as a part of the environment, Rockefeller's checklist of 26 ideas for activities for young people interested in the environment could be of use in the classroom, if slightly modified to focus on population. Several of the more relevant of these ideas include the following:[1]

1) Educate yourself about ecological principles, interdependence of all living things with their environment, and, being aware of the fragile balance of these forces, you can better convince others of the threat to the life cycle.
2) Establish an environmental corner in the library--books, clippings from newspapers and magazines, pictures; ecology bulletin boards, etc.
3) Distribute reprints of good newspaper and magazine articles.
4) Articles or themes in school or community paper. Start your own newsletter to the school, or to other classes.

Saltonstall, Jr., Richard. Your Environment and What You Can Do About It. New York: Walker & Company, 1970. 280pp.

The thesis of the book is that 1970 is a year of watershed change: after 183 years of development as a national goal, the author finds that we seem to have permanently changed to a goal of conservation, directed at our natural resources which are increasingly understood as being essential to life itself. The author has dedicated his volume to developing public knowledge, which, it is hoped, will complement already developed public awareness.

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[1] Nelson A. Rockefeller, Our Environment Can Be Saved, (Garden City, New York: Doubleday & Co., Inc., 1970), p. 56.

Mr. Saltonstall develops the topic of environmental quality from the point of view of the activities of the average citizen--beyond keeping his yard tidy and not being a litterbug. While he claims that activities such as writing letters to Congressmen and or ganizations who favor Zero Population Growth as national policy are helpful, he maintains that only massive state and federal legislation, particularly concerning tax deductions for children and liberalized abortion rules, and increased federal research, can, in the long run, solve our environmental problems. It has been suggested, the author reports, that the marriage contract will include a provision concerning child rearing, or further, that Americans may some day have to pay for a permit to have a child. Although he agrees that these measures may seem harsh to many if judged by today's standards, he claims that such are the costs of growth; and they are costs which must somehow be met.

The current U.S. population of over 200 million and the world population of 3.5 billion are beyond the optimum.

Although you could increase food supplies nine times by means of what has come to be known as the 'Green Revolution,' reported Dr. Preston Could Jr., of the National Academy of Sciences Committee, you would still have to assume a staggering rate of malnutrition in order to accommodate the thirty billion people that present growth rates will produce worldwide by the year 2075.

Saltonstall urges us to think long and hard about our present population pressures and about how our present decisions and policies will affect such pressures in the future. The tone of the book is pessimistic, due to the fact that the author does not think we are making much headway presently toward making decisions which will affect future population growth in a positive way. For example, the following description sets the stage for a discussion of the problems of people concentrated in urban areas:

> The prospects for acceptable living and working conditions in the nation's metropolitan regions are frankly not good. The urban environment already is crowded more than any other and cannot help but get worse as more people are jammed in.[1]

But, in the case of cities, as well as of American society in general, the solutions suggested are generally more institutional in nature than individual. Several steps which might be taken to improve America's big cities are the following: clear away derelict buildings, use air space over streets or creating buildings on water, obtain surplus unused government land, restore rundown blocks and decaying waterfronts, etc. It might be noted here, by way of criticism of the book, that none of these measures is suited to action by an individual, although the author is trying to convince his readers that individual action is necessary. Nonetheless, the main emphasis of the book remains a valid one: unlimited population growth is a dangerous and undesirable possibility. People in modern societies today can help preserve their environment in very particular ways, such as the following: creating as little air pollution as possible, buying low phosphate detergent, curtailing use of pesticides, saving water, forming pressure groups against industrial polluters, bulk packaging, and no deposit, no-return bottles. Perhaps secondary students could be put to work thinking up additional ways for the individual to interact with his environment in a positive way.

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[1] Richard Saltonstall, Jr., Your Environment and What You Can Do About It (New York: Walker & Company, 1970), p. 141.

Also included is an appendix listing, with addresses, and descriptions, 30 organizations which are active in improving or studying environmental quality.

U.N. Educational, Scientific, and Cultural Organization. International Repertory of Institutions Conducting Population Studies. New York: Social Science Clearing House, 1959. 240pp.

This handbook is a valuable reference for anyone doing research on population, or for anyone interested in teaching a unit on population. It is an exhaustive listing of institutions working both on the national and international levels in some field of population research.

The information listed under each organizational heading includes: name, address, Administrative Director, professional staff, finance and research activities, research in co-operation with other institutions, teaching and training and publications.

The UN committee used as criteria for the selection of institutions that they be either demographic institutions per se or institutions conducting population studies in the wider sense. Consequently, many sociological, economic, and geographical institutions which are involved in research either related to population, or who have only a limited number of population oriented projects are not included.

Of particular interest are Appendices B and C, in which the institutions surveyed were asked to discuss what they considered to be their most pressing problem and to make suggestions as to the way in which these problems might be solved. The response to this question (optional on the questionnaire) was small; however, the responses which were received have been summarized and classified. The needs expressed in terms of national concerns could be used in the secondary classroom in a study of a particular country and its population particulars; however, it is the international concerns which bring out the related problems in various countries and which could be put to much broader use. Many problems of basic data and, specifically, the lack thereof, were mentioned. International organizations requested preparation of some sort of international annotated selected bibliographies supplementary to population indexes to meet needs of research workers with a secondary interest in demography--e.g.: sociologists, economists, political scientists, geographers, etc. The United States reported a desire for improvement in the international standardization of national data and also for more funds for basic and methodological research.

The appendices might be photostated for student review and comment. It would be interesting to see if the students could guess why certain countries felt certain needs whereas other countries and other international organizations concentrated on different ones.

Victor-Bostrom Fund for the International Planned Parenthood Federation. Governments Act on Population Crisis. Washington, D.C.: Victor Bostrom Fund, 1969-70.

This pamphlet was issued to report on what various international officials have to say about how their governments are working to help diffuse the population bomb. The emphasis is on the industrialized countries and upon their aid programs to less developed nations.

Dr. Ernest Mitchenik, Director General of the Swedish International Development Authority, reports on Swedish aid to Pakistan and tells, at the same time, some interesting tales of economic overpopulation from Sweden's own history. He reports that, although Sweden has never been crowded in terms of population density, it was suffering from economic overpopulation in the 19th century when malnutrition and even starvation were common, infant mortality was high, and 'poor man's diseases' such as tuberculosis, were rampant. Many Swedes emigrated to North America and, according to Dr. Mitchenik:

> Those remaining in Sweden began to see for themselves the relationship between economic opportunity, food supply and health on the one hand, and population number and family size on the other.[1]

This recognition of the problem, and subsequent treatment thereof, is discussed by officials from Britain, Japan, Denmark, Germany, Norway, Holland, and Canada. In addition, there are reports from the United Nations, the U.S. AID Mission, and International Planned Parenthood.

This study, of particular interest and value as it approaches the problem of overpopulation from the point of view of the have-nations rather than the have not-nations, could be used in the classroom to show that the implications of the problems of overpopulation are indeed international and not just problems for the less developed nations to worry about.

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[1] Victor-Bostrom Fund for the International Planned Parenthood Federation, Governments Act on Population Crisis. (Washington, D.C.: Victor Bostrom Fund, 1969-70), p. 11

SECTION II THEME #4: Religious Involvement in Population Matters

Commentary: The ideological dimensions of the consideration of how many people is too many people vary with the ideas of the good life which are held to be different by different groups in different societies. Connected to religious beliefs to a large extent, but also reinforced by social views and social realities is the belief that the same large family which is seen to be an asset in a rural agricultural society is seen to be somewhat of a liability in an industrialized and increasingly urban one. The solution to overpopulation of the family level, as well as the national one, is increasingly, family planning on a voluntary basis. Birth control is neither a recent nor a western phenomenon; however, the development of the concept of Planned Parenthood is gaining widespread acceptance both in the industrialized and the underdeveloped nations.

But some of the more dogmatic religious groups, the Catholics and Moslems included, deal with the problem of population in terms of the poverty and misery brought about by the combination of too many people and too few resources in some areas. Rather than adopt a policy of population limitation to which they object on religious grounds, they recommend a more equitable distribution of goods and resources between the have nations and the nave not nations. The

3. What are the teachings of these religions on population matters? How are followers of each faith influenced by these teachings, i.e., do they tend to follow them because they believe they are right or out of fear of possible repercussions if they deviate from the religious doctrine or teaching.

4. What countries presently have the highest population densities? (Students may be surprised to learn that Holland, Japan, China, and India--all of which have different religious beliefs--fit into this category; this fact could be stressed to indicate that population problems do indeed run across religious barriers.)

   a. Place a transparency world map in the overhead projector and locate those countries mentioned above with high rates of population increase. Discuss the respective religious teachings in connection with family size in relation to the religion of each country.

   b. Discuss the effects of the following on population trends in the above mentioned countries--other countries may also be added to the list--strength of the church or the faith within the country; percent of the population belonging, at least nominally, to the specific faith; opportunities for quitting one church and joining another, which might have another belief in connection with optimum family size, and fear of some sort of religious punishment if religious directives are not adhered to carefully.

c. Ask students to formulate generalizations on the likelihood and possibility of an individual opposing the directives of his religion. What forces would encourage him? What forces would restrain him? What thought processes might he go through while making his decision?

Relevant Project Material

1. Film: The Population Problem: India, Writings in the Sand (60 minutes, B&W, 1964), Distributor: Indiana University, Audio Visual Service, Bloomington, Indiana 47401.

   Details the effects of India's uncontrolled population growth on her economy. Focuses on cultural and religious resistance to change. Interviews show upper and middle classes and governmental officials very concerned over too rapid growth. Family planning efforts are described. Gives viewer basic understanding of causes and consequences of population growth in Indian society.

Specific Readings

1. A list and description of relevant reading follows.

Kelly, George Anthony. Overpopulation. New York: The Paulist Press, 1960. 96pp.

Written by a Paulist Priest as a Catholic viewpoint on the problem of overpopulation, this book has as its thesis that the real crisis is not the actual number of people but the fact that we fail to meet the situation of an ever increasing number of people with prudence and wisdom. It is an apology for the Catholic Church which attempts, the author maintains, to avoid both the following extremes, which causes some leaders to close their eyes to peoples' difficulties, and other leaders to complicate the problem with ill-conceived, short-sighted or even immoral panaceas.

His historical research is of an average and uninteresting nature. He answers the question 'What is the Population Problem?' in 21 pages of rather general information. Nothing original or particularly thought provoking is included. When he interprets Catholic teaching and the Mission of the Catholic Church, however, his arguments are compelling and obviously are developed by someone with a firm foundation in church doctrine. Reverend Monsignor Kelly recognizes that as great population gains take place, an unparalleled effort will be required even to keep the present number of priests and religious personnel in proportion to the number of people. He stresses that the population problem, as we understand it, is simply a situation which has been defined for us by scientists. He constantly brings his readers back to the question 'Who created the earth and for what purpose?'

The author insists that:

> We must recognize human beings as God's most precious creatures . . . must recognize human life as God's most precious gift, and that every human being has an equality and distinct dignity under the creator. The peasant of Latin America or Asia, illiterate though he may be, has basic rights which no man can take from him. He was not made to have his destiny charted for him by other men elsewhere in the world![1]

This book is of value chiefly because it presents, clearly and openly, a viewpoint which is shared by millions of people today. It is not vague in its statements and it is well written. Though the religious stand on population control is perhaps a touchy one for secondary social studies teachers and pupils, it cannot be ignored; and, this book is a very good treatment of the issue.

St. John, Steven. The Agonizing Choice: Birth Control, Religion, and the Law. Bloomington, Indiana: Indiana University Press, 1971. 162pp.

This study combines a religious (Catholic) viewpoint on the subject of birth control, with a review-in-depth of the religious/legal controversy to date. The author explains that his religious background--strict Catholicism--has precluded his questioning the traditional dictums of his church on birth control; but that, despite these dictums, he revised his thinking to some extent in the early 1960's, when tremors began to be felt throughout the Roman Catholic world about birth control. His conclusions, reflected in the thesis of his book, are the following:

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[1] George Anthony Kelly, Overpopulation (New York: The Paulist Press, 1960), p. 27.

> Catholics should be free to decide according to their own consciences what methods of birth control to employ. . . . I make no claim that this is the only Catholic view but it is a Catholic view compatible with acceptance of the idea of the Roman Primacy, although not with some of its recent exercises. The conscience of any Catholic always operates within the framework of a Catholic truth--it is not something wholly autonomous--but it is a true conscience none the less and is entitled to freedom.[1]

The author does attempt to deal with Protestant thought on the subject, also, but alludes to such thought mostly as it has been either in agreement with or in opposition to the Catholic theological position.

There is a lengthy and informative discussion of the 1968 papal encyclical, Humanae Vitae. It reviews the encyclical itself, and then proceeds to enumerate the effect which the encyclical has had upon Catholic opinion and behavior as well as the reaction to the encyclical by Catholics and non-Catholics alike. The reaction is related by country, so, to the extent that there could really be such a thing as 'the position of Britain' or 'the reaction of Holland' these reactions are chronicled.

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[1] Steven St. John, The Agonizing Choice: Birth Control, Religion, and the Law (Bloomington, Indiana: Indiana University Press, 1971), p. 9.

This study is informative, thoughtful and well researched. It is, however, somewhat polemical; as it deals with a very controversial topic, it should be used with discretion on the secondary level. Its main contribution lies in its historical reporting of the Catholic/non-Catholic controversy. As a historical source book on the religious issue, it could be of extreme use in the classroom.

Zimmerman, Anthony. Catholic Viewpoint on Overpopulation. Garden City, New York: Doubleday & Company, Inc., 1961. 312pp.

Although somewhat doctrinaire for those who maintain that there exists no such thing as a unified Catholic viewpoint, on any subject, including overpopulation, this work seems to be a sincere attempt to present the beliefs of at least some Catholics. Written by a priest, it does carry the presupposition of solid theoretical and practical background in Catholic thought.

It presents a spotlight review of the traditional Catholic/non-Catholic debate over population control. Moving from the time of the Greek Republic (when Plato proposed that marriage and private families should be abolished and that wives, children, and real estate ought to be common property), he presents views on the subject by the ancient Hebrews, Chinese, Medieval Christians, and then moves on to present day Communists, in addition to modern Protestants and Catholics.

One might disagree with his constant down-playing of the seriousness of the problem of overpopulation. His attitude goes even beyond optimism--it is unquestioning belief that everything will eventually turn out all right, even if the situation at times seems difficult. Mr. Zimmerman maintains that, although there are more people today than ever before, there are better ways of providing for them. By way of evidence, he cites many religious sources; for example, he cites Pius XII's recommendations that family income should be such that it provides more than a hand-to-mouth existence. He gives no further thought to the details of the recommendations, or to the possibility of the recommendations becoming reality without the implementation of vast social and economic reform.

Speaking of India and China, Mr. Zimmerman states that the main need is for development of domestic resources. In explaining his reason for holding this opinion, he states that the countries are vast, that the resources are ample, and that internal migration will usually enable families to solve their problems. He mentions no source of evidence to support these claims. Further, he does not even consider population control as a factor in improving the standard of living of existing populations--an improvement, however, that he repeats quite often that he would favor.

The author's pronouncements on birth control are strict and they are conservative; he takes the general stand that any form of contraception is contrary to the Law of God and the law of nature. His argument can generally be summed up as follows:

> A distinction between relative and absolute population has been highlighted. . . . It is clear that the earth is not absolutely overcrowded today. After due investigation it also becomes manifest that absolute overpopulation is not a threat during the foreseeable future. . . . The Catholic church's rejection of contraception and abortion is clear and irrevocable.[1]

The work is generally doctrinaire, as the above passage indicates. It is, however, thoughtful and well researched, particularly in the extensive citations of general religious sources and papal pronouncements; it could be used as a class resource book for opinion and historical evidence of religious nature.

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[1] Anthony Zimmerman, Catholic Viewpoint on Overpopulation (Garden City, New York: Doubleday & Company, Inc., 1961), p. 211.

SECTION II THEME #5: Three Scenarios for the Future

Commentary: Following the study of all or some of the preceeding 11 units, students might be given the chance to put their knowledge to use in an exercise of imagination. The pessimistic and the optimistic schools of thought on matters of population are each hampered by not being able to see into the future and by having to make certain assumptions about the population future.

The students might be given a chance to draw up several population scenarios for the future: although such an activity is highly unlikely in light of the difficulties and limitations which must be faced by population policy planners, it is hoped that it will serve as an interesting and constructive learning experience for social studies students.

Suggested Activities:

1. Students could construct a simple simulation game, on either a national or international level, which would attempt to predict what will come tomorrow if world population slows down, increases in an uncontrolled manner, or increases in a more controlled (i.e., slower) manner.
2. Ask the class the discuss the differences between the utopian type of future scenarios they are being asked to construct and the real but uncertain future which must

be dealt with by population policy planners. Which type of scenario is easier to deal with? Why? Do they think that constructing an ideal future scenario is in any way a step toward formulating ideas on what the real future might bring?

3. Ask the students to construct a chart, either as an individual notebook project or as a general class activity to be written on the blackboard; they will list in one column the important factors to be considered about population in the future. In the following three columns would be listed the status of that factor in Societies #1, #2, and #3. For example:

Factors	Future Society #1 (Population Growth Slows Down)	Future Society #2 (World Population Growth Increases in an Uncontrolled Manner)	Future Society #3 (World Population Growth Increases in a Controlled and Slower Manner)
1. Adequate Food and Housing	Yes	No	?
2. Adequate Employment	Yes	No	?
3. Individual Opportunity	Probably	?	Yes, but to a lesser degree
4. Social Mobility	Yes	No	?

CHAPTER V

CONCLUSION

The study of population is a critical area of secondary social studies just as the reality of our growing population is of major, even crucial, significance to society. Problems which stem from the population increase can only be solved by an informed citizenry; and contributing toward a more informed citizenry is certainly one of the basic goals of the social studies. According to the Foreign Policy Association publication, Intercom, the population problem, being both controversial and highly technical, requires increased citizen understanding and action; a recent article stated:

> The technical facts about demography and reproductive biology can become more meaningful when intelligently interpreted and clearly presented. Similarly, an objective presentation of the facts about family planning action programs can create a climate of understanding that will help in the overall attack on the world population problem.[1]

The materials mentioned in this study illustrate the broad range of interests and concerns of population experts and the themes suggested will, hopefully, serve to orient teachers toward their effective use in the secondary social studies classroom.

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[1] Intercom, Vol. 6, No. 1, January-February, 1964, p. 18.

VITA

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